DEPARTMENT OF NATURAL RESOURCES

LAW ENFORCEMENT DIVISION

WHOLESALE FISH DEALERS REPORT FORMS #9165

R 308.1
Source: 1987 AACS.

LOCAL HUNTING AND FIREARMS CONTROLS

R 317.101.1
Source: 1981 AACS.

R 317.108.2
Source: 1980 AACS.

R 317.111.2
Source: 1983 AACS.

R 317.123.1
Source: 1982 AACS.

R 317.123.3
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R 317.123.4
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R 317.125.8
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R 317.135.2
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R 317.135.3
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Source: 1980 AACS.

R 317.138.3
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R 317.147.8
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R 317.150.9
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R 317.150.10
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Source: 1985 AACS.

R 317.163.6
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R 317.163.8
Source: 1997 AACS.

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R 317.163.11
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R 317.163.20
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R 317.163.25
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R 317.163.36
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R 317.163.41
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R 317.163.42
Source: 1985 AACS.

R 317.163.43
Source: 1980 AACS.

R 317.163.44
Source: 1984 AACS.

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Source: 1981 AACS.

R 317.163.46
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R 317.171.3
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R 317.173.3
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R 317.182.8
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Source: 1983 AACS.

R 317.182.10
Source: 1983 AACS.

R 317.182.11
Source: 1982 AACS.

R 317.182.12
Source: 1982 AACS.

MACKINAC ISLAND STATE PARK COMMISSION

GENERAL RULES

PART 1. DEFINITIONS

R 318.111
Source: 2002 AACS.

R 318.112
Source: 2002 AACS.

R 318.113
Source: 2002 AACS.

R 318.114
Source: 2002 AACS.

R 318.115
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R 318.116
Source: 2002 AACS.

R 318.117

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R 318.118
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R 318.119
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R 318.119a
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R 318.119b
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R 318.119c
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R 318.119d
Source: 2002 AACS.

R 318.120
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PART 2. REGULATIONS

R 318.121
Source: 2002 AACS.

R 318.122
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R 318.122a
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R 318.122b
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R 318.145a
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Source: 2002 AACS.

R 318.146
Source: 2002 AACS.

R 318.147
Source: 2002 AACS.

NATURAL RESOURCES COMMISSION

RECREATION BOND PROGRAM

R 318.201
Source: 1989 AACS.

R 318.202
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R 318.203
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R 318.205
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R 318.210
Source: 1989 AACS.

R 318.211
Source: 1989 AACS.

WILDERNESS AND NATURAL AREAS

R 322.3.1
Source: 1988 AACS.

DEPARTMENT OF ENVIRONMENTAL QUALITY

LAND AND WATER MANAGEMENT

GREAT LAKES SUBMERGED LANDS

R 322.1001
Source: 1986 AACS.

R 322.1002
Source: 1982 AACS.

R 322.1003
Source: 1986 AACS.

R 322.1004
Source: 1982 AACS.

R 322.1005
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R 322.1008
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R 322.1015
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R 322.1018
Source: 1982 AACS.

DEPARTMENT OF ENVIRONMENTAL QUALITY

SURFACE WATER QUALITY DIVISION

GENERAL RULES

R 323.2
Source: 2001 AACS.

R 323.4
Source: 2001 AACS.

R 323.5
Source: 2001 AACS.

R 323.8
Source: 2001 AACS.

R 323.9
Source: 2001 AACS.

DEPARTMENT OF NAUTURAL RESOURCES

NATURAL RESOURCES COMMISSION

STATE REVOLVING LOAN FUND

R 323.951
Source: 1989 AACS.

R 323.952
Source: 1989 AACS.

R 323.953
Source: 1989 AACS.

R 323.954
Source: 1989 AACS.

R 323.955
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R 323.961
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R 323.962
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R 323.963
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R 323.964
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R 323.965
Source: 1989 AACS.

DEPARTMENT OF ENVIRONMENTAL QUALITY

WATER RESOURCES PROTECTION

PART 1. GENERAL PROVISIONS

R 323.1001
Source: 2001 AACS.

R 323.1003
Source: 2001 AACS.

R 323.1009
Source: 2001 AACS.

PART 2. ORGANIZATION, OPERATIONS, PROCEDURES, AND HEARINGS

R 323.1011
Source: 2001 AACS.

R 323.1012
Source: 2001 AACS.

R 323.1014
Source: 2001 AACS.

R 323.1015
Source: 2001 AACS.

R 323.1017
Source: 1997 AACS.

R 323.1018
Source: 2001 AACS.

R 323.1021
Source: 2001 AACS.

R 323.1023
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R 323.1025
Source: 2001 AACS.

R 323.1027
Source: 1997 AACS.

R 323.1031
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R 323.1032
Source: 1997 AACS.

R 323.1033
Source: 1997 AACS.

R 323.1034
Source: 1997 AACS.

R 323.1035
Source: 1997 AACS.

R 323.1036
Source: 1997 AACS.

R 323.1038
Source: 1997 AACS.

PART 4. WATER QUALITY STANDARDS

R 323.1041 Purpose.
Rule 41. The purpose of the water quality standards as prescribed by these rules is to establish water quality requirements applicable to the Great Lakes, the connecting waters, and all other surface waters of the state, to protect the public health and welfare, to enhance and maintain the quality of water, to protect the state's natural resources, and to serve the purposes of Public Law 92-500, as amended, 33 U.S.C. 1251 et seq., Part 31, Water Resources Protection, 1994 PA 451, MCL 324.3101 to 324.3119, and the Great Lakes water quality agreement enacted November 22, 1978, and amended in 1987. These standards may not reflect current water quality in all cases. Water quality of certain surface waters of the state may not meet standards as a result of natural causes or conditions unrelated to human influence. Where surface waters of the state may have been degraded due to past human activities and attainment of standards in the near future is not economically or technically achievable, these standards shall be used to improve water quality. These standards are the minimum water quality requirements by which the surface waters of the state shall be managed.

History: 1954 ACS 77, Eff. Dec. 13, 1973; 1979 AC; 1986 MR 11, Eff.Dec. 2, 1986; 1994 MR 5, Eff. May 20, 1994; 2006 MR 1, Eff. Jan. 13, 2006.

R 323.1043 Definitions; A to L.

Rule 43. As used in this part:

(a) "Acceptable daily exposure (ADE)" means an estimate of the maximum daily dose of a substance that is not expected to result in adverse noncancer effects to the general human population, including sensitive subgroups.

(b) "Acceptable wildlife endpoints" means subchronic and chronic endpoints that affect reproductive or developmental success, organismal viability, or growth or any other endpoint that is, or is directly related to, a parameter that influences population dynamics.

(c) "Acute-chronic ratio (ACR)" means a standard measure of the acute toxicity of a material divided by an appropriate measure of the chronic toxicity of the same material under comparable conditions.

(d) "Adverse effect" means any deleterious effect to organisms due to exposure to a substance. The term includes effects that are or may become debilitating, harmful, or toxic to the normal functions of the organism. The term does not include nonharmful effects such as tissue discoloration alone or the induction of enzymes involved in the metabolism of the substance.

(e) "Agriculture use" means a use of water for agricultural purposes, including livestock watering, irrigation, and crop spraying.

(f) "Anadromous salmonids" means trout and salmon that ascend streams to spawn.

(g) "Aquatic maximum value (AMV)" means the highest concentration of a material in the ambient water column to which an aquatic community can be exposed briefly without resulting in unacceptable effects, calculated according to the methodology specified in R 323.1057(2). The AMV is equal to 1/2 of the tier I or tier II final acute value (FAV).

(h) "Baseline bioaccumulation factor" means, for organic chemicals, a BAF that is based on the concentration of freely dissolved chemicals in the ambient water and takes into account the partitioning of the chemical within the organism. For inorganic chemicals, the term means a BAF that is based on the wet weight of the tissue.

(i) "Baseline bioconcentration factor" means, for organic chemicals, a BCF that is based on the concentration of freely dissolved chemicals in the ambient water and takes into account the partitioning of the chemical within the organism. For inorganic chemicals, the term means a BCF that is based on the wet weight of the tissue.

(j) "Bioaccumulation" means the net accumulation of a substance by an organism as a result of uptake from all environmental sources.

(k) "Bioaccumulation factor (BAF)" means the ratio, in liters per kilogram, of a substance's concentration in tissue of an aquatic organism to its concentration in the ambient water where both the organism and its food are exposed and the ratio does not change substantially over time.

(l) "Bioaccumulative chemical of concern (BCC)" means a chemical which, upon entering the surface waters, by itself or as its toxic transformation product, accumulates in aquatic organisms by a human health bioaccumulation factor of more than 1,000 after considering metabolism and other physiochemical properties that might enhance or inhibit bioaccumulation. The human health bioaccumulation factor shall be derived according to R 323.1057(5). Chemicals with half-lives of less than 8 weeks in the water column, sediment, and biota are not BCCs. The minimum BAF information needed to define an organic chemical as a BCC is either a field-measured BAF or a BAF derived using the biota-sediment accumulation factor (BSAF) methodology. The minimum BAF information needed to define an inorganic chemical as a BCC, including an organometal, is either a field-measured BAF or a laboratory-measured bioconcentration factor (BCF). The BCCs to which these rules apply are identified in table 5 of R 323.1057.

(m) "Bioconcentration" means the net accumulation of a substance by an aquatic organism as a result of uptake directly from the ambient water through gill membranes or other external body surfaces.

(n) "Bioconcentration factor (BCF)" means the ratio, in liters per kilogram, of a substance's concentration in tissue of an aquatic organism to its concentration in the ambient water in situations where the organism is exposed through the water only and the ratio does not change substantially over time.

(o) "Biota-sediment accumulation factor (BSAF)" means the ratio, in kilograms of organic carbon per kilogram of lipid, of a substance's lipid-normalized concentration in tissue of an aquatic organism to its organic carbon-normalized concentration in surface sediment in situations where the ratio does not change substantially over time, both the organism and its food are exposed, and the surface sediment is representative of average surface sediment in the vicinity of the organism.

(p) "Carcinogen" means a substance which causes an increased incidence of benign or malignant neoplasms in animals or humans or that substantially decreases the time in which neoplasms develop in animals or humans.
(q) "Chronic effect" means an adverse effect that is measured by assessing an acceptable endpoint and results from continual exposure over several generations or at least over a significant part of the test species' projected life span or life stage.
(r) "Coldwater fishery use" means the ability of a waterbody to support a balanced, integrated, adaptive community of fish-species which thrive in relatively cold water, generally including any of the following:
(i) Trout.
(ii) Salmon.
(iii) Whitefish.
(iv) Cisco.
(s) "Connecting waters" means any of the following:
(i) The St. Marys river.
(ii) The Keweenaw waterway.
(iii) The Detroit river.
(iv) The St. Clair river.
(v) Lake St. Clair.
(t) "Control document" means any authorization issued by the department to any source of pollutants to surface waters of the state that specifies conditions under which the source is allowed to operate.
(u) "Conversion factor" means the decimal fraction of a metal corresponding to an estimate of the percent total recoverable metal that was dissolved in the aquatic toxicity tests that were most important in the derivation of the tier I or tier II aquatic life value for that metal.
(v) "Department" means the director of the Michigan department of environmental quality or his or her designee to whom the director delegates a power or duty by written instrument. (w) "Depuration" means the loss of a substance from an organism as a result of any active or passive process.
(x) "Designated use" means those uses of the surface waters of the state as established by R 323.1100 whether or not they are being attained.
(y) "Discharge-induced mixing" means the mixing of a discharge and receiving water that occurs due to discharge momentum and buoyancy up to the point where mixing is controlled by ambient turbulence.
(z) "Dissolved oxygen" means the amount of oxygen dissolved in water and is commonly expressed as a concentration in terms of milligrams per liter.
(aa) "Dissolved solids" means the amount of materials dissolved in water and is commonly expressed as a concentration in terms of milligrams per liter.
(bb) "EC50" means a statistically or graphically estimated concentration that is expected to cause 1 or more specified effects in 50% of a group of organisms under specified conditions.
(cc) "Effluent" means a wastewater discharge from a point source to the surface waters of the state.
(dd) "Endangered species act (ESA)" means the endangered species act of 1973, as amended, 16 U.S.C. §1531 et seq.
(ee) "Endangered or threatened species" means Michigan species that have been identified as endangered or threatened pursuant to section 4 of the endangered species act and listed in 50 C.F.R. §17 (2000).
(ff) "Fecal coliform" means a type of coliform bacteria found in the intestinal tract of humans and other warm-blooded animals.
(gg) "Final acute value (FAV)" means the level of a chemical or mixture of chemicals that does not allow the mortality or other specified response of aquatic organisms to exceed 50% when exposed for 96 hours, except where a shorter time period is appropriate for certain species. The FAV shall be calculated under R 323.1057(2) if appropriate for the chemical.
(hh) "Final chronic value (FCV)" means the level of a substance or a mixture of substances that does not allow injurious or debilitating effects in an aquatic organism resulting from repeated long-term exposure to a substance relative to the organism's lifespan, calculated using the methodology specified in R 323.1057(2).
(ii) "Fish consumption use" means the ability of a surface water of the state to provide a fishery for human consumption that is consistent with the level of protection provided by these rules.
(jj) "Food chain multiplier (FCM)" means the ratio of a BAF to an appropriate BCF.
(kk) "Harmonic mean flow" means the number of daily flow measurements divided by the sum of the reciprocals of the flows.
(ll) "Human cancer value (HCV)" means the maximum ambient water concentration of a substance at

which a lifetime of exposure from either drinking the water, consuming fish from the water, and conducting water-related recreation activities or consuming fish from the water and conducting water-related recreation activities will represent a plausible upper bound risk of contracting cancer of 1 in 100,000 using the exposure assumptions and methodology specified in R 323.1057(4).

(mm) "Human noncancer value (HNV)" means the maximum ambient water concentration of a substance at which adverse noncancer effects are not likely to occur in the human population from lifetime exposure through either drinking the water, consuming fish from the water, and conducting water-related recreation activities or consuming fish from the water and conducting water-related recreation activities, using the exposure assumptions and methodology specified in R 323.1057(4).

(nn) "Industrial water supply" means a water source intended for use in commercial or industrial applications or for noncontact food processing.

(oo) "Inland lake" means a surface water of the state that is an inland body of standing water situated in a topographic depression other than an artificial agricultural pond that is less than 1 acre, unless otherwise determined by the department. The department may designate a dammed river channel or an impoundment as an inland lake based on aquatic resources to be protected.

(pp) "Keweenaw waterway" means the entire Keweenaw waterway, including Portage lake, Houghton county.

(qq) "Lake Superior basin-bioaccumulative substances of immediate concern (LSB-BSIC)" means substances identified in the September 1991 binational program to restore and protect the Lake Superior basin, including all of the following:

(i) 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD).

(ii) Octachlorostyrene.

(iii) Hexachlorobenzene.

(iv) Chlordane.

(v) Dichloro-diphenyl-trichloroethane (DDT) and metabolites.

(vi) Dieldrin.

(vii) Toxaphene.

(viii) Polychlorinated biphenyls (PCBs).

(ix) Mercury.

(rr) "LC50" means a statistically or graphically estimated concentration that is expected to be lethal to 50% of a group of organisms under specified conditions.

(ss) "Linearized multistage model" means a conservative mathematical model for cancer risk assessment. The model fits linear dose-response curves to low doses. The model is consistent with a no-threshold model of carcinogenesis.

(tt) "Loading capacity" means the greatest amount of pollutant loading that a water can receive without violating water quality standards.

(uu) "Lowest observed adverse effect level (LOAEL)" means the lowest tested dose or concentration of a substance that results in an observed adverse effect in exposed test organisms when all higher doses or concentrations result in the same or more severe effects.

(vv) "Lotic" means surface waters of the state that exhibit flow.

History: 1954 ACS 77, Eff. Dec. 13, 1973; 1979 AC; 1984 MR 12, Eff. Jan. 18, 1985; 1986 MR 11, Eff. Dec. 2, 1986; 1994 MR 5, Eff. May 20,1994; 1997 MR 7, Eff. July 28, 1997; 1999 MR 3, Eff. Apr. 2, 1999; 2006 MR 1,Eff. Jan. 13, 2006.

R 323.1044 Definitions; M to W.

Rule 44. As used in this part:

(a) "Maximum acceptable toxicant concentration (MATC)" means the concentration obtained by calculating the geometric mean of the lower and upper chronic limits from a chronic test. A lower chronic limit is the highest tested concentration that did not cause the occurrence of a specific adverse effect. An upper chronic limit is the lowest tested concentration which did cause the occurrence of a specific adverse effect and above which all tested concentrations caused such an occurrence.

(b) "Mixing zone" means the portion of a water body in which a point source discharge or venting groundwater is mixed with the receiving water.

(c) "Natural water temperature" means the temperature of a body of water without an influence from an artificial source or a temperature as otherwise determined by the department.

(d) "New discharge" means any building, structure, facility, or installation from which there is or may be a

discharge of substances to the surface waters of the state, the construction of which commenced after July 29, 1997.

(e) "No observed adverse effect level (NOAEL)" means the highest tested dose or concentration of a substance that results in no observed adverse effect in exposed test organisms where higher doses or concentrations result in an adverse effect.

(f) "Nonpoint source" means a source of material to the surface waters of the state other than a source defined as a point source.

(g) "Octanol-water partition coefficient (K_{ow})" means the ratio of the concentration of a substance in the n-octanol phase to its concentration in the aqueous phase in an equilibrated 2-phase octanol-water system. For log K_{ow}, the log of the octanol-water partition coefficient is a base 10 logarithm.

(h) "Palatable" means the state of being agreeable or acceptable to the sense of sight, taste, or smell.

(i) "Partial body contact recreation" means any activities normally involving direct contact of some part of the body with water, but not normally involving immersion of the head or ingesting water, including fishing, wading, hunting, and dry boating.

(j) "Plant nutrients" means the chemicals, including nitrogen and phosphorus, necessary for the growth and reproduction of aquatic rooted, attached, and floating plants, fungi, or bacteria.

(k) "Point source" means a discharge that is released to the surface waters of the state by a discernible, confined, and discrete conveyance, including any of the following from which wastewater is or may be discharged:

(i) A pipe.

(ii) A ditch.

(iii) A channel.

(iv) A tunnel.

(v) A conduit.

(vi) A well.

(vii) A discrete fissure.

(viii) A container.

(ix) A concentrated animal feeding operation.

(x) A boat or other watercraft.

(l) "Public water supply source~~s~~" means the surface waters of the state at the point of water intake as identified in the publication "public water supply intakes in Michigan," dated December 9, 1999, and contiguous areas as the department determines necessary to assure protection of the source.

(m) "Receiving waters" means the surface waters of the state into which an effluent is or may be discharged.

(n) "Relative source contribution (RSC)" means the factor (percentage) used in calculating an HNV to account for all sources of exposure to a contaminant. The RSC reflects the percent of total exposure that can be attributed to surface water through water intake and fish consumption.

(o) "Risk associated dose (RAD)" means a dose of a known or presumed carcinogenic substance, in milligrams per kilogram per day, that, over a lifetime of exposure, is estimated to be associated with a plausible upper bound incremental cancer risk equal to 1 in 100,000.

(p) "Sanitary sewage" means treated or untreated effluent that contains human metabolic and domestic wastes.

(q) "Significant industrial user (SIU)" means either of the following:

(i) A nondomestic user subject to categorical pretreatment standards under 40 C.F.R. §403 (1992) and 40 C.F.R. chapter I, subchapter N (1990).

(ii) A nondomestic user to which 1 of the following provisions applies:

(A) The user discharges an average of 25,000 gallons per day or more of process wastewater to the publicly owned treatment works, excluding sanitary, noncontact cooling, and boiler blowdown wastewater.

(B) The user contributes a process wastestream that makes up 5% or more of the average dry weather hydraulic or organic capacity of the publicly owned treatment works.

(C) The user is designated as a significant industrial user by the control authority on the basis that the user has a potential for adversely affecting the publicly owned treatment works' operation or for violating any pretreatment standard or requirement.

Upon a finding that a nondomestic user meeting the criteria in this subdivision has no reasonable potential for adversely affecting the publicly owned treatment works' operation or for violating any pretreatment standard or requirement, the control authority may, at any time, on its own initiative or in response to a petition received from a nondomestic user or publicly owned treatment works, determine that a nondomestic user is not a

significant nondomestic user.
(r) "Slope factor" means the incremental rate of cancer development calculated using a linearized multistage model or other appropriate model. It is expressed in milligrams per kilogram per day of exposure to the chemical in question and is also known as q_1*.
(s) "Standard" means a definite numerical value or narrative statement promulgated by the department to maintain or restore water quality to provide for, and fully protect, a designated use of the surface waters of the state.
(t) "Subchronic effect" means an adverse effect, measured by assessing an acceptable endpoint resulting from continual exposure for a period of time less than the time deemed necessary for a chronic test.
(u) "Surface waters of the state" means all of the following, but does not include drainage ways and ponds used solely for wastewater conveyance, treatment, or control:
(i) The Great Lakes and their connecting waters.
(ii) All inland lakes.
(iii) Rivers.
(iv) Streams.
(v) Impoundments.
(vi) Open drains.
(vii) Wetlands.
(viii) Other surface bodies of water within the confines of the state.
(v) "Suspended solids" means the amount of materials suspended in water and is commonly expressed as a concentration in terms of milligrams per liter.
(w) "Threshold effect" means an effect of a substance for which there is a theoretical or empirically established dose or concentration below which the effect does not occur.
(x) "Total body contact recreation" means any activities normally involving direct contact with water to the point of complete submergence, particularly immersion of the head, with considerable risk of ingesting water, including swimming.
(y) "Total maximum daily load (TMDL)" means an allowable pollutant loading to a surface water of the state as defined in R 323.1207.
(z) "Toxic substance" means a substance, except for heat, that is present in sufficient a concentration or quantity that is or may be harmful to plant life, animal life, or designated uses.
(aa) "Uncertainty factor (UF)" means one of several numeric factors used in operationally deriving criteria from experimental data to account for the quality or quantity of the available data.
(bb) "Uptake" means the acquisition of a substance from the environment by an organism as a result of any active or passive process.
(cc) "Venting groundwater" means groundwater that is entering a surface water of the state from a facility, as defined in section 20101 of 1994 PA 451, MCL 324.20101.
(dd) "Warmwater fishery use" means the ability of a waterbody to support a balanced, integrated, adaptive community of fish species which thrive in relatively warm water, including any of the following:
(i) Bass.
(ii) Pike.
(iii) Walleye.
(iv) Panfish.
(ee) "Wasteload allocation (WLA)" means the allocation for an individual point source which ensures that the level of water quality to be achieved by the point source complies with these rules.
(ff) "Wastewater" means any of the following:
(i) Storm water runoff that could result in injury to a use designated in R 323.1100.
(ii) Liquid waste resulting from commercial, institutional, domestic, industrial, and agricultural activities, including cooling and condensing waters.
(iii) Sanitary sewage.
(iv) Industrial waste**.**
(gg) "Water quality value" means a tier I or tier II aquatic life or human health value or tier I wildlife value developed under R 323.1057.
(hh) "Watershed" means the geographic region within which water drains into a particular river, stream, or body of water.
(ii) "Wetland" means land characterized by the presence of water at a frequency and duration sufficient to

support, and that under normal circumstances does support, wetland vegetation or aquatic life.
(jj) "Whole effluent toxicity" means the total toxic effect of an effluent measured directly with a toxicity test under R 323.1219.
(kk) "Wildlife use" means that a waterbody will not likely cause population-level impacts to mammalian and avian wildlife populations from lifetime exposure to the waterbody as a source of drinking water and aquatic food, consistent with the level of protection provided by these rules.
(ll) "Wildlife value" means the maximum ambient water concentration of a substance at which adverse effects are not likely to result in population-level impacts to mammalian and avian wildlife populations from lifetime exposure through drinking water and aquatic food supply, using the methodology specified in R 323.1057(3).
History: 1954 ACS 77, Eff. Dec. 13, 1973; 1979 AC; 1984 MR 12, Eff. Jan. 18, 1985; 1986 MR 11, Eff. Dec. 2, 1986; 1994 MR 5, Eff. May 20, 1994; 1997 MR 7, Eff. July 28, 1997; 2006 MR 1, Eff. Jan. 13, 2006.

R 323.1050 Physical characteristics.
Rule 50. The surface waters of the state shall not have any of the following physical properties in unnatural quantities which are or may become injurious to any designated use:
(a) Turbidity.
(b) Color.
(c) Oil films.
(d) Floating solids.
(e) Foams.
(f) Settleable solids.
(g) Suspended solids.
(h) Deposits.
History: 1954 ACS 77, Eff. Dec. 13, 1973; 1979 AC; 1986 MR 11, Eff. Dec. 2, 1986; 2006 MR 1, Eff. Jan. 13, 2006.

R 323.1051
Source: 1984 AACS.

R 323.1053 Hydrogen ion concentration.
Rule 53. The hydrogen ion concentration expressed as pH shall be maintained within the range of 6.5 to 9.0 S.U. in all surface waters of the state, except for those waters where the background pH lies outside the range of 6.5 to 9.0 S.U. Any requests to artificially induce a pH change greater than 0.5 S.U. in surface waters where the background pH lies outside the range of 6.5 to 9.0 S.U., shall be considered by the department on a case-by-case basis.
History: 1954 ACS 77, Eff. Dec. 13, 1973; 1979 AC; 1986 MR 11, Eff. Dec. 2, 1986; 2006 MR 1, Eff. Jan. 13, 2006.

R 323.1055 Taste- or odor-producing substances.
Rule 55. The surface waters of the state shall contain no taste-producing or odor-producing substances in concentrations which impair or may impair their use for a public, industrial, or agricultural water supply source or which impair the palatability of fish as measured by test procedures approved by the department.
History: 1954 ACS 77, Eff. Dec. 13, 1973; 1979 AC; 1986 MR 11, Eff. Dec. 2, 1986; 2006 MR 1, Eff. Jan. 13, 2006.

R 323.1057 Toxic substances.
Rule 57. (1) Toxic substances shall not be present in the surface waters of the state at levels that are or may become injurious to the public health, safety, or welfare, plant and animal life, or the designated uses of the waters. As a minimum level of protection, toxic substances shall not exceed the water quality values specified in, or developed pursuant to, the provisions of subrules (2) to (4) of this rule or conditions set forth by the provisions of subrule (6) of this rule. A variance to these values may be granted consistent with the provisions of R 323.1103.
(2) Levels of toxic substances in the surface waters of the state shall not exceed the aquatic life values specified in tables 1 and 2, or, in the absence of such values, values derived according to the following processes, unless

site-specific modifications have been developed pursuant to subdivision (r) of this subrule:
(a) Minimum data requirements to derive a tier I final acute value (FAV), which is used to calculate a tier I aquatic maximum value (AMV), include the results of acceptable acute tests for 1 freshwater species from each of the following:
(i) The family salmonidae in the class Osteichthyes.
(ii) One other family, preferably a commercially or recreationally important warmwater species, in the class Osteichthyes.
(iii) A third family in the phylum Chordata.
(iv) A planktonic crustacean.
(v) A benthic crustacean.
(vi) An insect.
(vii) A family in a phylum other than Arthropoda or Chordata.
(viii) A family in any order of insect or any phylum not already represented.
(b) Minimum data requirements to derive a tier I final chronic value (FCV) include acceptable chronic tests for the data requirements in subdivision (a) of this subrule or acute-to-chronic ratios (ACRs) shall be available with at least 1 species of aquatic animal in at least 3 different families provided that, of the 3 species, all of the following provisions apply:
(i) At least 1 is a fish.
(ii) At least 1 is an invertebrate.
(iii) At least 1 is an acutely sensitive freshwater species. The other 2 may be saltwater species.
(c) The following are acute test types to be used in the development of acute values:
(i) Daphnids, other cladocerans, and midges. Tests with daphnids and other cladocerans shall be started with organisms less than 24 hours old and tests with midges shall be started with second or third instar larvae. The results shall be a 48-hour EC50 based on the total percentage of organisms killed and immobilized. If the results of a 48-hour EC50 based on the total percentage of organisms killed and immobilized are not available, then the results shall be a 48-hour LC50. Tests longer than 48 hours are acceptable if the animals were not fed and the control animals were acceptable at the end of the test.
(ii) Bivalve mollusc embryos and larvae. Results of a 96-hour EC50 based on the percentage of organisms that have incompletely developed shells plus the percentage of organisms killed. If the results of a 96-hour EC50 based on the percentage of organisms that have incompletely developed shells plus the percentage of organisms killed are not available, then the lowest of the following shall be used:
(A) A 48-hour to 96-hour EC50 based on the percentage of organisms that have incompletely developed shells plus the percentage of organisms killed.
(B) A 48-hour to 96-hour EC50 based upon the percentage of organisms that have incompletely developed shells.
(C) A 48-hour to 96-hour LC50.
(iii) All other aquatic animal species. Results of a 96-hour EC50 based on the percentage of organisms exhibiting loss of equilibrium plus the percentage of organisms immobilized plus the percentage of organisms killed. If results of a 96-hour EC50 based on the percentage of organisms exhibiting loss of equilibrium plus the percentage of organisms immobilized plus the percentage of organisms killed are not available, then the lowest of the following shall be used:
(A) The 96-hour EC50 based on the percentage of organisms exhibiting loss of equilibrium plus the percentage of organisms immobilized.
(B) The 96-hour LC50.
(d) The following are chronic test types to be used in the development of chronic values:
(i) Life cycle toxicity tests. Tests with fish should begin with embryos or newly hatched young that are less than 48 hours old, continue through maturation and reproduction, and end not less than 24 days, or 90 days for salmonids, after the hatching of the next generation. Tests with daphnids should begin with young that are less than 24 hours old and last for not less than 21 days, or for ceriodaphnids not less than 7 days. Tests with mysids should begin with young that are less than 24 hours old and continue until 7 days past the median time of first brood release in the controls.
(ii) Partial life cycle toxicity tests for fishes. Exposure to the test material should begin with immature juveniles not less than 2 months before active gonad development, continue through maturation and reproduction, and end not less than 24 days, or 90 days for salmonids, after the hatching of the next generation.
(iii) Early life stage toxicity tests for fishes. Test durations are 28 to 32 days, or 60 days post hatch for

salmonids, beginning shortly after fertilization and continuing through embryonic, larval, and early juvenile development.

(iv) Larval survival and growth test for fathead minnows, Pimephales promelas. The test is a static-renewal test 7 days in duration beginning with larvae that are less than 24 hours old. The tests shall be used on a case-by-case basis where the discharger demonstrates to the department, or the department determines, that the results of the tests are comparable to test results produced by any of the test methods identified in paragraphs (i) to (iii) of this subdivision.

(e) All of the following provisions apply in the selection of data for use in aquatic life value development:

(i) All data that are used shall be typed and dated and be accompanied by enough supporting information to indicate that acceptable test procedures, such as the procedures of the american society of testing and materials and the procedures of the United States EPA, were used and that the results are reliable.

(ii) Questionable data, data on formulated mixtures and emulsifiable concentrates, data on species that are nonresident to North America, and data obtained with previously exposed organisms shall not be used in the derivation of chemical-specific aquatic life values.

(iii) Acute values reported as "greater than" values and acute values that are above the solubility of the test material shall be used by assuming that the acute value is equal to the greater than value or the upper limit of the test material solubility, respectively.

(iv) The agreement of the data within and between species shall be considered. Acute values that appear to be questionable in comparison with other acute and chronic data for the same species and for other species in the same genus shall not be used.

(v) If the data indicate that 1 or more life stages are at least a factor of 2 more resistant than 1 or more other life stages of the same species, then the data for the more resistant life stages shall not be used in the calculation of an FAV.

(vi) Chronic values shall be based on the results of flow-through chronic tests in which the concentration of test material in the test solutions was measured at appropriate times during the test. However, renewal tests are acceptable for daphnids or the 7-day fathead minnow test.

(f) Where appropriate and where sufficient dissolved toxicological data or conversion factors are available, aquatic life water quality values for metals shall be expressed as dissolved to better approximate the bioavailable fraction in the water column.

(g) If the acute toxicity of the chemical has not been adequately shown to be related to hardness, pH, or other water quality characteristics, a tier I FAV shall be calculated using the following procedures:

(i) For each species for which at least 1 acceptable acute test result is available, the species mean acute value (SMAV) shall be calculated as the geometric mean of the results of all acceptable flow-through acute toxicity tests in which the concentrations of test material were measured with the most sensitive tested life stage of the species. For a species for which an acceptable flow-through acute toxicity test in which the concentrations of the test material were measured is not available, the SMAV shall be calculated as the geometric mean of all acceptable acute toxicity tests with the most sensitive tested life stage.

(ii) For each genus for which 1 or more SMAVs are available, the genus mean acute value (GMAV) shall be calculated as the geometric mean of the SMAVs.

(iii) Order the GMAVs from high to low.

(iv) Assign ranks, r, to the GMAVs from "1" for the lowest to "n" for the highest. If 2 or more GMAVs are identical, then assign them successive ranks.

(v) Calculate the cumulative probability, P, for each GMAV as r/(n + 1).

(vi) Select the 4 GMAVs that have cumulative probabilities closest to 0.05. If there are fewer than 59 GMAVs, the 4 GMAVs that have cumulative probabilities closest to 0.05 will always be the 4 lowest GMAVs.

(vii) Using the 4 selected GMAVs, and Ps, calculate the tier I FAV as follows:

$$S^2 = \frac{\sum((\ln GMAV)^2) - \frac{(\sum(\ln GMAV))^2}{4}}{\sum(P) - \frac{(\sum(\sqrt{P}))^2}{4}}$$

$$L = \frac{\sum(\ln GMAV) - S(\sum(\sqrt{P}))}{4}$$

$A = S(\sqrt{0.05}) + L$

Tier I FAV = e^{A}.

(h) If data for the chemical are available to show that the acute toxicity of at least 1 fish and 1 invertebrate species is related to a water quality characteristic, then a tier I FAV equation shall be calculated using the following procedures:
(i) For each species for which comparable acute toxicity values are available at 2 or more different values of the water quality characteristic, perform a least squares regression of the acute toxicity values on the corresponding values of the water quality characteristic to obtain the slope and its 95% confidence limits for each species. Because the best documented water quality relationship is between hardness and acute toxicity of metals in fresh water and a log-log relationship fits these data, geometric means and natural logarithms of both toxicity and water quality shall be used. For relationships based on other water quality characteristics, no transformation or a different transformation might fit the data better, and appropriate changes shall be made.
(ii) Decide whether the data for each species are relevant taking into account the range and number of the tested values of the water quality characteristic and the degree of agreement within and between species.
(iii) If useful slopes are not available for at least 1 fish and 1 invertebrate, if the useful slopes are too dissimilar, or if too few data are available to adequately define the relationship between acute toxicity and the water quality characteristic, then return to the provisions of subdivision (g) of this subrule, using the results of tests conducted under conditions and in waters similar to those commonly used for toxicity tests with the species.
(iv) For each species, calculate the geometric mean, W, of the acute values and then divide each of the acute values for each species by W. This normalizes the acute values so that the geometric mean of the normalized values for each species individually and for any combination of species is 1.0. To select tests for calculating W, use the data preference requirements described in subdivision (e)(i) of this subrule.
(v) For each species, calculate the geometric mean, X, of the water quality characteristic data points and then divide each of the data points for each species by X. This normalizes the water quality characteristic data points so that the geometric mean of the normalized data points for each species individually and for any combination of data points is 1.0.
(vi) For each species, perform a least squares regression of the normalized acute values on the normalized water quality characteristic. The resulting slopes and 95% confidence limits will be identical to those obtained in paragraph (i) of this subdivision.
(vii) Perform a least squares regression of all of the normalized acute values on the corresponding normalized values of the water quality characteristic to obtain the pooled acute slope, V, and its 95% confidence limits.
(viii) For each species, calculate the logarithm, Y, of the SMAV at a selected value, Z, of the water quality characteristic using the equation:
$Y = \ln W - V(\ln X - \ln Z)$.
(ix) For each species, calculate the SMAV at Z using the equation:
SMAV = e^{Y}.
(x) For each species for which at least 1 acceptable acute test result is available, the species mean acute value (SMAV) shall be calculated as the geometric mean of the results of all acceptable flow-through acute toxicity tests in which the concentrations of test material were measured with the most sensitive tested life stage of the species. For a species for which an acceptable flow-through acute toxicity test in which the concentrations of the test material was measured is not available, the SMAV shall be calculated as the geometric mean of all acceptable acute toxicity tests with the most sensitive tested life stage.
(xi) Obtain the tier I FAV at Z by using the procedure described in subdivision (g)(ii) to (vii) of this subrule.
(xii) The tier I FAV equation for any selected value of a water quality characteristic is:

tier I FAV = $e^{(V[\ln(\text{water quality characteristic})] + A - V[\ln Z])}$
Where:
V = pooled acute slope.
A = ln(tier 1 FAV at Z).
Z = selected value of the water quality characteristic as used in paragraph (viii) of this subdivision.
(i) If the acute and chronic toxicity of the chemical has not been adequately shown to be related to hardness, pH, or other water quality characteristics, then a tier I final chronic value (FCV) shall be calculated using the following procedures:

(i) If at least 1 maximum acceptable toxicant concentration (MATC) is available to meet each of the minimum data requirements as described in subdivision (a) of this subrule, then a species mean chronic value (SMCV) shall be determined for each species by calculating the geometric mean of the MATCs selected from acceptable tests in the following order of preference:
(A) All life cycle and partial life cycle toxicity tests with the species.
(B) All early life stage tests.
(C) All 7-day larval survival and growth tests for fathead minnows. Genus mean chronic values (GMCV) shall then be calculated as the geometric mean of the SMCVs for the genus. The tier I FCV shall be obtained using the procedure described in subdivision (g)(i) to (vii) of this subrule substituting FCV for FAV, chronic for acute, SMCV for SMAV, and GMCV for GMAV.
(ii) If MATCs are not available to meet the minimum data requirements as described in subdivision (a) of this subrule, then the tier I FCV shall be calculated as follows:
(A) For each MATC for which at least 1 corresponding acute value is available, calculate an acute-to-chronic ratio (ACR). An ACR is calculated by dividing the geometric mean of the results of all acceptable flow-through acute tests in which the concentrations are measured by the MATC. Static tests are acceptable for daphnids and midges. For fish, the acute test or tests should be conducted with juveniles. Tests used to develop an ACR shall meet 1 of the following conditions and be used in the following order of preference:
(1) The acute test or tests are part of the same study as the chronic test.
(2) The acute test or tests were conducted as part of a different study as the chronic tests, but in the same laboratory and dilution water.
(3) The acute and chronic tests were conducted in the same dilution water, but in different laboratories.
(B) For each species, calculate the species mean ACR (SMACR) as the geometric mean of all ACRs available for that species.
(C) The tier I ACR can be obtained in the following 3 ways, depending on the data available:
(1) If the species mean ACR seems to increase or decrease as the SMAVs increase, then the tier I ACR shall be calculated as the geometric mean of the ACRs for species that have SMAVs which are close to the FAV.
(2) If a major trend is not apparent and the ACRs for all species are within a factor of 10, then the tier I ACR shall be calculated as the geometric mean of all of the SMACRs.
(3) If the SMACRs are less than 2.0, and especially if they are less than 1.0, acclimation has probably occurred during the chronic test. In this situation, because continuous exposure and acclimation cannot be assured to provide adequate protection in field situations, the tier I ACR shall be assumed to be 2, so that the tier I FCV is equal to the aquatic maximum value (AMV).
(D) Calculate the tier I FCV by dividing the tier I FAV by the tier I ACR.
(j) If data for the chemical are available to show acute or chronic toxicity to at least 1 species is related to a water quality characteristic, then a tier I FCV equation shall be calculated using the following procedures:
(i) If MATCs are available to meet the minimum data requirements described in subdivision (a) of this subrule, then a tier I FAV equation shall be derived as follows:
(A) For each species for which comparable MATCs are available at 2 or more different values of the water quality characteristic, perform a least squares regression of the MATCs on the corresponding values of the water quality characteristic to obtain the slope and its 95% confidence limits for each species. Because the best documented water quality relationship is that between hardness and chronic toxicity of metals in fresh water and a log-log relationship fits these data, geometric means and natural logarithms of both toxicity and water quality shall be used. For relationships based on other water quality characteristics, no transformation or a different transformation might fit the data better, and appropriate changes shall be made.
(B) Decide whether the data for each species are relevant, taking into account the range and number of the tested values of the water quality characteristic and the degree of agreement within and between species.
(C) If a useful chronic slope is not available for at least 1 species or if the available slopes are too dissimilar or if too few data are available to adequately define the relationship between the MATC and the water quality characteristic, then assume that the chronic slope is the same as the acute slope, or return to subdivision (i) of this subrule, using the results of tests conducted under conditions and in water similar to conditions and water commonly used for toxicity tests with the species.
(D) For each species, calculate the geometric mean of the available MATCs, M, and then divide each MATC for a species by the mean for the species. This normalizes the MATCs so that the geometric mean of the normalized values for each species individually, and for any combination of species, is 1.0. To select tests for calculating M, use the data preference requirements described in subdivision (i)(i) of this subrule.

(E) For each species, calculate the geometric mean, P, of the water quality characteristic data points and then divide each of the data points for each species by P. This normalizes the water quality characteristic data points so that the geometric mean of the normalized data points for each species individually and for any combination of data points is 1.0.
(F) For each species, perform a least squares regression of the normalized chronic toxicity values on the corresponding normalized values of the water quality characteristic.
(G) Perform a least squares regression of all the normalized chronic values on the corresponding normalized values of the water quality characteristic to obtain the pooled chronic slope, L, and its 95% confidence limits.
(H) For each species, calculate the logarithm, Q, of the SMCV at a selected value, Z, of the water quality characteristic using the equation:
$Q = \ln M - L(\ln P - \ln Z)$.
(I) For each species, calculate aN SMCV at Z using the equation:
$SMCV = e^{Q}$.
(J) Obtain the tier I FCV at Z by using the procedure described in subdivision (g)(ii) to (vii) of this subrule.
(K) The tier I FCV equation is written as follows:

$$\text{tier I FCV} = e^{(L[\ln \text{water quality characteristic}]) + S - L[\ln Z])}$$

Where:
L = pooled chronic slope.
S = ln(tier I FCV at Z).
Z = selected value of the water quality characteristic as used in subparagraph (h) of this paragraph.
(ii) If MATCs are not available to meet the minimum data requirements described in subdivision (a) of this subrule, then the tier I FCV equation shall be calculated as follows:
(A) If ACRs are available for enough species at enough values of the water quality characteristic to indicate that the ACR appears to be the same for all species and appears to be independent of the water quality characteristic, then calculate the tier I ACR as the geometric mean of the available SMACRs. The ACR shall be derived using the provisions in subdivision (i)(ii) of this subrule.
(B) Calculate the tier I FCV at the selected value Z of the water quality characteristic by dividing the tier I ~~FCV~~ FAV at Z, derived in subdivision (h) of this subrule, by the tier I ACR.
(C) Use V = pooled acute slope as L = pooled chronic slope.
(D) The tier I FCV equation is written as follows:

$$\text{tier I FCV} = e^{(L[\ln \text{water quality characteristic}]) + S - L[\ln Z])}$$

Where:
L = pooled chronic slope.
S = ln(tier I FCV at Z).
Z = selected value of the water quality characteristic as used in subparagraph (B) of this paragraph.
(k) If the minimum data requirements in subdivision (a) of this subrule are not available to derive a tier I FAV, it is possible to derive a tier II FAV if the data base for the chemical contains a GMAV for Ceriodaphnia sp., Daphnia sp., or Simocephalus sp. and 1 other freshwater species that meets any additional minimum requirements of subdivision (a) of this subrule. To select tests for calculating a tier II FAV, use the data preference requirements described in subdivision (g)(i) of this subrule. The tier II FAV shall be calculated for a chemical as follows:
(i) The lowest GMAV in the database is divided by the tier II acute factor (AF) from table 3 corresponding to the number of satisfied tier I minimum data requirements listed in subdivision (a) of this subrule.
(ii) If appropriate, the tier II FAV shall be made a function of a water quality characteristic in a manner similar to that described in subdivision (h) of this subrule.
(l) If the minimum data requirements in subdivision (b) of this subrule are not available to derive a tier I FCV, it is possible to derive a tier II FCV for a chemical by 1 of the following methods listed in order of preference:

(i) $\text{Tier II FCV} = \dfrac{\text{tier I FAV}}{\text{tier II ACR}}$
Where:
Tier II ACR = tier II acute-chronic ratio determined by assuming enough ACRs of 18 so that the total number of

ACRs for the chemical equals 3. The tier II ACR is the geometric mean of the 3 ACRs.

(ii) Tier II FCV = $\frac{\text{tier II FAV}}{\text{tier I ACR}}$

Where:

Tier I ACR = the final acute-chronic ratio for the chemical derived using the provisions in subdivision (i)(ii) of this subrule.

(iii) Tier II FCV = $\frac{\text{tier II FAV}}{\text{tier II ACR}}$

(iv) If appropriate, the tier II FCV shall be made a function of a water quality characteristic in a manner similar to that described in subdivision (j) of this subrule.

(m) If, for a commercially or recreationally important species of the surface waters of the state, the geometric mean of the acute values or chronic values from a flow-through test in which the concentrations of the test materials were measured is lower than the calculated FAV or FCV, then that geometric mean shall be used as the FAV or FCV instead of the calculated FAV or FCV. For chemicals that have final acute or chronic value equations, if the SMAV or SMCV at Z of a commercially or recreationally important species of the surface waters of the state is lower than the calculated FAV or FCV at Z, then that SMAV or SMCV shall be used as the FAV or FCV at Z.

(n) The tier I or tier II aquatic maximum value (AMV) shall be derived by dividing the tier I or tier II FAV by 2.

(o) A water concentration protective of aquatic plants shall be evaluated for a chemical on a case-by-case basis if data are available from tests with an important aquatic plants species in which the concentration of test material is measured and the endpoint is biologically important. If appropriate, the tier I or tier II FCV shall be lowered to be protective of aquatic plants.

(p) On the basis of all available pertinent laboratory and field information, determine if the tier I and tier II aquatic life values are consistent with sound scientific evidence. If the values are not consistent with sound scientific evidence, then the values shall be adjusted to more appropriately reflect the weight of scientific evidence.

(q) The tier I or tier II AMV shall be applied as a 24-hour average and compliance shall be based on the average of all samples taken at a site within the same 24-hour period. The tier I or tier II FCV shall be applied as a monthly average and compliance shall be based on the average of all daily measurements taken at a site within the same calendar month.

(r) Aquatic life values may be modified on a site-specific basis to be more or less stringent to reflect local environmental conditions. All of the following provisions apply to aquatic life values modification:

(i) Less stringent modifications shall be based on sound scientific rationale, shall be protective of designated uses of the surface waters of the state, and shall not jeopardize the continued existence of endangered or threatened species listed or proposed under section 4 of the endangered species act or result in the destruction or adverse modification of the species' critical habitat.

(ii) Modifications may be derived using the recalculation procedure, water effect ratio procedure, or resident species procedure described in section 3.7 entitled "Site-Specific Aquatic Life Criteria" in chapter 3 of the United States EPA Water Quality Standards Handbook, second edition - revised (1994). In addition, modifications may be derived using the procedure entitled "Streamlined Water Effect Ratio Procedure for Discharges of Copper" (United States EPA, 2001).

(iii) For the purposes of implementing the recalculation and resident species procedures described under paragraph (ii) of this subdivision, species that occur at a site include species to which any of the following provisions apply:

(A) The species are present at the site at any time of the year or are determined by a representative sampling regime.

(B) The species are present at the site only seasonally due to migration.

(C) The species are present intermittently because they periodically return to or extend their ranges into the site.

(D) The species were present at the site in the past, are not currently present at the site due to degraded conditions, and are expected to return to the site when conditions improve.

(E) The species are present in nearby bodies of water, are not currently present at the site due to degraded conditions, and are expected to be present at the site when conditions improve.

(iv) For the purposes of implementing the recalculation and resident species procedures described under

paragraph (ii) of this subdivision, the species that occur at a site do not include species which were once present at the site, but which cannot exist at the site now due to permanent physical alteration of the habitat at the site.
(v) More stringent modifications to protect endangered or threatened species listed or proposed under section 4 of the endangered species act may be accomplished using either of the following procedures:
(A) For a listed or proposed species or for a surrogate of a listed or proposed species, if the SMAV or SMCV is lower than the calculated FAV or FCV, the lower SMAV or SMCV may be used instead of the calculated FAV or FCV in developing site-specific modified criteria.
(B) The recalculation procedure described in section 3.7 entitled "Site-Specific Aquatic Life Criteria" in chapter 3 of the United States EPA Water Quality Standards Handbook, second edition-revised (1994).
(vi) Any site-specific modifications developed pursuant to this subdivision shall be approved by the department.
(3) Levels of toxic substances in the surface waters of the state shall not exceed the wildlife values specified in table 4 or, in the absence of such values, the wildlife values derived according to the following process, unless site-specific modifications have been developed pursuant to subdivision (n) of this subrule:
(a) Tier I wildlife values for the BCCs listed in table 5, with the exception of the wildlife values listed in table 4, shall be calculated using the following equation:

$$WV = \frac{\frac{TD}{UF_A \times UF_S \times UF_L} \times Wt}{W + \sum(F_{TLi} \times BAF_{TLi}^{WL})}$$

Where:
WV = wildlife value in milligrams of substance per liter (mg/L).
TD = test dose (TD) in milligrams of substance per kilograms per day (mg/kg/d) for the test species. This shall be either a NOAEL or a LOAEL.
UF_A = uncertainty factor (UF) for extrapolating toxicity data across species (unitless). A species-specific UF shall be selected and applied to each representative species, consistent with the equation.
UF_S = UF for extrapolating from subchronic to chronic exposures (unitless).
UF_L = UF for LOAEL to NOAEL extrapolations (unitless).
Wt = average weight in kilograms (kg) for the representative species.
W = average daily volume of water consumed in liters per day (L/d) by the representative species.
F_{TLi} = average daily amount of food consumed from trophic level i in kilograms per day (kg/d) by the representative species.
BAF_{TLi}^{WL} = bioaccumulation factor (BAF) for wildlife food in trophic level i in liters per kilogram (L/kg), developed using the BAF methodology in subrule (5) of this rule. For consumption of piscivorous birds by other birds, for example herring gulls by eagles, the BAF is derived by multiplying the trophic level 3 BAF for fish by a biomagnification factor to account for the biomagnification from fish to the consumed birds.
(b) Piscivorous species are identified as the focus of concern for wildlife values. Three avian species - eagle, kingfisher, and herring gull - and 2 mammalian species - mink and otter - are used as representative species for protection. The TD obtained from toxicity data for each taxonomic class is used to calculate WVs for each of the 5 representative species.
(c) The avian WV is the geometric mean of the WVs calculated for the 3 representative avian species. The mammalian WV is the geometric mean of the WVs calculated for the 2 representative mammalian species. The lower of the mammalian and avian WVs shall be the final WV.
(d) A TD value is required for WV calculation. To derive a WV, the data set shall be sufficient to generate a subchronic or chronic dose-response curve for any given substance for both mammalian and avian species using acceptable wildlife endpoints. In reviewing the toxicity data available that meet the minimum data requirements for each taxonomic class, data from peer-reviewed field studies of wildlife species take precedence over other types of studies where the studies are of adequate quality. An acceptable field study shall be of subchronic or chronic duration, provide a defensible, chemical-specific dose-response curve in which cause and effect are clearly established, and assess acceptable wildlife endpoints. When acceptable wildlife field studies are not available or are determined to be of inadequate quality, the needed toxicity information may come from peer-reviewed laboratory studies. When laboratory studies are used, preference shall be given to laboratory studies with wildlife species over traditional laboratory animals to reduce uncertainties in making interspecies extrapolations. All available laboratory data and field studies shall be reviewed to corroborate the

final WV, to assess the reasonableness of the toxicity value used, and to assess the appropriateness of any UFs that are applied. All of the following requirements apply when evaluating the studies from which a TD is derived:
(i) The mammalian data shall come from at least 1 well-conducted study of 90 days or more that is designed to observe acceptable wildlife endpoints.
(ii) The avian data shall come from at least 1 well-conducted study of 70 days or more that is designed to observe acceptable wildlife endpoints.
(iii) In reviewing the studies from which a TD is derived for use in calculating a WV, studies involving exposure routes other than oral may be considered only when an equivalent oral daily dose can be estimated and technically justified. The WV calculations are based on an oral route of exposure.
(iv) In assessing the studies that meet the minimum data requirements, preference should be given to studies that assess effects on developmental or reproductive endpoints because, in general, these are more important endpoints in ensuring that a population's productivity is maintained.
(e) In selecting data to be used in the derivation of WVs, the evaluation of acceptable endpoints will be the primary selection criterion. All data that are not part of the selected subset may be used to assess the reasonableness of the toxicity value and the appropriateness of the UFs. In addition, the following provisions shall apply:
(i) If more than 1 TD value based on different endpoints of toxicity is available within a taxonomic class, then that TD, which is likely to reflect best potential impacts to wildlife populations through resultant changes in mortality or fecundity rates, shall be used for the calculation of WVs.
(ii) If more than 1 TD based on the same endpoint toxicity is available within a taxonomic class, then the TD from the most sensitive species shall be used.
(iii) If more than 1 TD based on the same endpoint of toxicity is available for a given species, then the TD for that species shall be calculated using the geometric mean of the TDs for the same endpoint of toxicity.
(f) If a TD is available in units other than milligrams of substance per kilograms per day (mg/kg/d), then the following procedures shall be used to convert the TD to the appropriate units before calculating a WV:
(i) If the TD is given in milligrams of toxicant per liter of water consumed by the test animals (mg/L), then the TD shall be multiplied by the daily average volume of water consumed by the test animals in liters per day (L/d) and divided by the average weight of the test animals in kilograms (kg).
(ii) If the TD is given in milligrams of toxicant per kilogram of food consumed by the test animals (mg/kg), then the TD shall be multiplied by the average amount of food in kilograms consumed daily by the test animals (kg/d) and divided by the average weight of the test animals in kilograms (kg).
(g) When drinking and feeding rates and body weight are needed to express the TD in milligrams of substance per kilograms per day (mg/kg/d), they are obtained from the study from which the TD was derived. If not already determined, body weight and drinking and feeding rates are to be converted to a wet weight basis. If the study does not provide the needed values, then the values shall be determined as follows:
(i) For studies done with domestic laboratory animals, use either the publication entitled "Registry of Toxic Effects, a Comprehensive Guide," 1993, United States Department of Health and Human Services, NIOSH Publication No. 97-119, or the publication entitled "Recommendations for and Documentation of Biological Values for use in Risk Assessment," United States EPA, 1988 NTIS-PB88-179874.
(ii) If the references in paragraph (i) of this subdivision do not contain the information for the species used in a given study, then the following allometric equations shall be used:
(A) For mammalian species, the general allometric equations are as follows:
(1) $F = 0.0687 \times (Wt)^{0.82}$
Where:
F = feeding rate of mammalian species in kilograms per day (kg/d) dry weight.
Wt = average weight in kilograms (kg) of the test animals.
(2) $W = 0.099 \times (Wt)^{0.90}$
Where:
W = drinking rate of mammalian species in liters per day (L/d).
Wt = average weight in kilograms (kg) of the test animals.
(B) For avian species, the general allometric equations are as follows:
(1) $F = 0.0582 (Wt)^{0.65}$
Where:
F = feeding rate of avian species in kilograms per day (kg/d) dry weight.

Wt = average weight in kilograms (kg) of the test animals.

(2) $W = 0.059 \times (Wt)^{0.67}$

Where:

W = drinking rate of avian species in liters per day (L/d).

Wt = average weight in kilograms (kg) of the test animals.

(h) If an NOAEL is unavailable as the TD and an LOAEL is available, then the LOAEL may be used to estimate the NOAEL. If used, the LOAEL shall be divided by ~~a~~an UF to estimate an NOAEL for use in deriving WVs. The value of the UF shall not be less than 1 and should not exceed 10, depending on the dose-response curve and any other available data, and is represented by UF_L in the equation expressed in subdivision (a) of this subrule.

(i) If only subchronic data are available, then the TD may be derived from subchronic data. In such cases, the TD shall be divided by a~~n~~ UF to extrapolate from subchronic to chronic levels. The value of the UF shall not be less than 1 and should not exceed 10, and is represented by UF_S in the equation expressed in subdivision (a) of this subrule. This UF is to be used when assessing highly bioaccumulative substances where toxicokinetic considerations suggest that a bioassay of limited length underestimates chronic effects.

(j) The selection of the UF_A shall be based on the available toxicological data and on available data concerning the physicochemical, toxicokinetic, and toxicodynamic properties of the substance in question and the amount and quality of available data. This UF_A is a UF that is intended to account for differences in toxicological sensitivity among species and both of the following provisions apply:

(i) The UF_A shall not be less than 1 and should not exceed 100 and shall be applied to each of the 5 representative species based on existing data and best professional judgment. The value of UF_A may differ for each of the representative species.

(ii) The UF_A shall be used only for extrapolating toxicity data across species within a taxonomic class; however, an interclass extrapolation employing a UF_A may be used for a given chemical if it can be supported by a validated biologically-based dose-response model or by an analysis of interclass toxicological data, considering acceptable endpoints, for a chemical analog that acts under the same mode of toxic action.

(k) The body weights (Wt), feeding rates (F_{TLi}), drinking rates (W), and trophic level dietary composition (as food ingestion rate and percent in diet) for each of the 5 representative species are presented in table 6. The methodology for development of bioaccumulation factors is presented in subrule (5) of this rule. Trophic level 3 and 4 BAFs are used to derive WVs because these are the trophic levels at which the representative species feed.

(l) Determine, on the basis of all pertinent data available, whether the wildlife values derived are consistent with sound scientific evidence. If they are not, the values shall be adjusted to more appropriately reflect the weight of available scientific evidence.

(m) The WVs shall be applied as a monthly average and compliance shall be based on the average of all daily measurements taken at a site within the same calendar month.

(n) Wildlife values may be modified on a site-specific basis to be more or less stringent to reflect local environmental conditions. The modifications shall be derived by making appropriate site-specific adjustments to the methodology in this subrule. The following provisions shall apply:

(i) Less stringent modifications shall be protective of designated uses of the surface waters of the state, shall be based on sound scientific rationale, shall not jeopardize the continued existence of endangered or threatened species listed or proposed under section 4 of the endangered species act or result in the destruction or adverse modification of the species' critical habitat, and shall consider the mobility of both the prey organisms and wildlife populations in defining the site for which criteria are developed.

(ii) More stringent modifications to protect endangered or threatened species listed or proposed under section 4 of the endangered species act may be accomplished by the use of an intraspecies uncertainty factor to account for protection of individuals within a wildlife population.

(iii) Any site-specific modifications developed pursuant to this subdivision shall be approved by the department.

(4) Levels of toxic substances in the surface waters of the state shall not exceed the human health values specified in tables 7 and 8 or, in the absence of such values, the values derived according to the following process, unless site-specific modifications have been developed pursuant to subdivision (h) of this subrule:

(a) Human cancer values (HCVs) and human noncancer values (HNVs) shall be derived based on either a tier I or tier II classification. The 2 tiers are primarily distinguished by the amount of toxicity data available for deriving the concentration levels and the quantity and quality of data on bioaccumulation. The best available

toxicity data on the adverse health effects of a chemical and the best data on bioaccumulation factors shall be used when developing human health values. The toxicity data shall include data from well-conducted epidemiological studies or animal studies, or both, that provide, for carcinogens, an adequate weight of evidence of potential human carcinogenicity and, for tier I values for noncarcinogens, a dose-response relationship involving critical effects biologically relevant to humans. These data shall be obtained from sources described in 40 C.F.R. §132, appendix C, item II, "Minimum Data Requirements" (1995), including the integrated risk information system (IRIS), the scientific literature, and other informational databases, studies, or reports that contain adverse health effects data of adequate quality for use in this procedure. Strong consideration shall be given to the most currently available guidance provided by IRIS in deriving values, supplemented with any recent data not incorporated into IRIS. Minimum data requirements to derive the human health values are as follows:

(i) HCVs shall be derived if there is adequate evidence of potential human carcinogenic effects for a chemical. Carcinogens shall be classified, depending on the weight of evidence, as either human carcinogens, probable human carcinogens, or possible human carcinogens. To develop tier I and tier II human cancer values, the following minimum data sets are necessary:

(A) Weight of evidence of potential human carcinogenic effects sufficient to derive a tier I HCV shall generally include human carcinogens and probable human carcinogens and can include, on a case-by-case basis, possible human carcinogens if studies have been well-conducted, although based on limited evidence, when compared to studies used in classifying human and probable human carcinogens. The decision to use data on a possible human carcinogen for deriving tier I values shall be a case-by-case determination. In determining whether to derive a tier I HCV, available information on mode of action, such as mutagenicity/genotoxicity (determinations of whether the chemical interacts directly with DNA), structure activity, and metabolism shall also be considered.

(B) Weight of evidence of possible human carcinogenic effects sufficient to derive a tier II HCV shall include the possible human carcinogens for which, at a minimum, there are data sufficient for quantitative risk assessment, but for which data are inadequate for tier I value development due to a tumor response of marginal statistical significance or inability to derive a strong dose-response relationship. In determining whether to derive tier II human cancer values, available information on mode of action, such as mutagenicity/genotoxicity (determinations of whether the chemical interacts directly with DNA), structure activity, and metabolism shall also be considered. As with the use of data on possible human carcinogens in developing tier I values, the decision to use data on possible human carcinogens to derive tier II values shall be made on a case-by-case basis.

(ii) To derive HNVs, all available toxicity data shall be evaluated. The full range of possible health effects of a chemical shall be considered in order to best describe the dose-response relationship of the chemical, and to calculate values which will protect against the most sensitive endpoint or endpoints of toxicity. Although it is desirable to have an extensive database that considers a wide range of possible adverse effects, this type of data exists for a very limited number of chemicals. For many others, there is a range in quality and quantity of data available. To assure minimum reliability of values, it is necessary to establish a minimum database with which to develop tier I or tier II values. The following procedures represent the minimum data sets necessary for this procedure:

(A) The minimum data set sufficient to derive a tier I HNV shall include at least 1 well-conducted epidemiologic study or animal study. A well-conducted epidemiologic study shall quantify exposure levels and demonstrate positive association between exposure to a chemical and adverse effects in humans. A well-conducted study in animals shall demonstrate a dose-response relationship involving 1 or more critical effects biologically relevant to humans. Ideally, the duration of a study should span multiple generations of exposed test species or at least a major portion of the lifespan of 1 generation. This type of data is currently very limited. By the use of uncertainty adjustments, shorter-term studies, such as 90-day subchronic studies, with evaluation of more limited effects, may be used to extrapolate to longer exposures or to account for a variety of adverse effects. For tier I values developed pursuant to this procedure, such a limited study shall be conducted for not less than 90 days in rodents or for 10% of the lifespan of other appropriate test species and shall demonstrate a no observable adverse effect level (NOAEL). Chronic studies of 1 year or longer with rodents or 50% of the lifespan or longer with other appropriate test species that demonstrate a lowest observable adverse effect level (LOAEL) may be sufficient for use in tier I value derivation if the effects observed at the LOAEL were relatively mild and reversible as compared to effects at higher doses. This does not preclude the use of a LOAEL from a study of chronic duration with only 1 or 2 doses if the effects observed appear minimal when

compared to effect levels observed at higher doses in other studies.
(B) If the minimum data for deriving tier I values are not available to meet the tier I data requirements, then a more limited data base may be considered for deriving tier II values. As with tier I, all available data shall be considered and ideally should address a range of adverse health effects with exposure over a substantial portion of the lifespan, or multiple generations, of the test species. If such data are lacking, it may be necessary to rely on less extensive data to establish a tier II value. With the use of appropriate uncertainty factors to account for a less extensive database, the minimum data sufficient to derive a tier II value shall include a NOAEL from at least 1 well-conducted short-term repeated dose study. The study shall be conducted with animals, be of not less than 28 days duration, demonstrate a dose-response, and involve effects biologically relevant to humans. Data from studies of longer duration (more than 28 days) that may demonstrate other study conditions, as well as LOAELs from the studies (more than 28 days), may be more appropriate in some cases for derivation of tier II values. Use of a LOAEL should be based on consideration of the severity of effect, the quality of the study, and the duration of the study.
(iii) Bioaccumulation factor minimum data requirements for tier determination include the following:
(A) To be considered a tier I cancer or noncancer human health value, along with satisfying the minimum toxicity data requirements of paragraphs (i)(A) and (ii)(A) of this subdivision, an organic chemical shall meet 1 of the following bioaccumulation data requirements:
(1) A field-measured BAF.
(2) A BAF derived using the BSAF methodology.
(3) A chemical that has a BAF of less than 125 regardless of what method in subrule (5) of this rule was used to derive the BAF.
(B) To be considered a tier I cancer or noncancer human health value, along with satisfying the minimum toxicity data requirements of paragraphs (i)(A) and (ii)(A) of this subdivision, an inorganic chemical, including organometals such as mercury, shall meet 1 of the following bioaccumulative data requirements:
(1) A field-measured BAF.
(2) A laboratory-measured BCF.
(C) Cancer or noncancer human health values are considered tier II if they do not meet either the minimum toxicity data requirements of paragraphs (i)(A) and (ii)(A) of this subdivision or the minimum bioaccumulation data requirements of subparagraph (A) or (B) of this paragraph.
(b) The fundamental principles for human health cancer values development are as follows:
(i) A non-threshold mechanism of carcinogenesis shall be assumed unless biological data adequately demonstrate the existence of a threshold on a chemical-specific basis.
(ii) All appropriate human epidemiologic data and animal cancer bioassay data shall be considered. Data specific to an environmentally appropriate route of exposure shall be used. Oral exposure is preferred over dermal and inhalation exposure since, in most cases, the exposure routes of greatest concern are fish consumption and drinking water/incidental ingestion. The risk associated dose shall be set at a level corresponding to an incremental cancer risk of 1 in 100,000. If acceptable human epidemiologic data are available for a chemical, then the data shall be used to derive the risk associated dose. If acceptable human epidemiologic data are not available, then the risk associated dose shall be derived from available animal bioassay data. Data from a species that is considered most biologically relevant to humans, that is, responds most like humans, is preferred where all other considerations regarding quality of data are equal. In the absence of data to distinguish the most relevant species, data from the most sensitive species tested, that is, the species showing a carcinogenic effect at the lowest administered dose, shall generally be used.
(iii) If animal bioassay data are used and a non-threshold mechanism of carcinogenicity is assumed, then the data are fitted to a linearized multistage computer model, for example, a GLOBAL '86 or equivalent model. GLOBAL '86 is the linearized multistage model which was derived by Howe, Crump, and Van Landingham (1986) which the Unites States EPA uses to determine cancer potencies (Howe et al., 1986). The upper-bound 95% confidence limit on risk, or the lower 95% confidence limit on dose, at the 1 in 100,000 risk level shall be used to calculate a risk associated dose (RAD) for individual chemicals. Other models, including modifications or variations of the linear multistage model that are more appropriate to the available data may be used where scientifically justified.
(iv) If the duration of the study is significantly less than the natural lifespan of the test animal, then the slope may be adjusted on a case-by-case basis to compensate for latent tumors that were not expressed.
(v) A species scaling factor shall be used to account for differences between test species and humans. It shall be assumed that milligrams per surface area per day is an equivalent dose between species. All doses presented

in mg/kg bodyweight will be converted to an equivalent surface area dose by raising the mg/kg dose to the 3/4 power. However, if adequate pharmacokinetic and metabolism studies are available, then these data may be factored into the adjustment for species differences on a case-by-case basis.

(vi) Additional data selection and adjustment decisions shall also be made in the process of quantifying risk. Consideration shall be given to tumor selection for modeling, that is, pooling estimates for multiple tumor types and identifying and combining benign and malignant tumors. All doses shall be adjusted to give an average daily dose over the study duration. Adjustments in the rate of tumor response shall be made for early mortality in test species. The goodness-of-fit of the model to the data shall also be assessed.

(vii) If a linear, non-threshold dose-response relationship is assumed, then the RAD shall be calculated using the following equation:

$$RAD = \frac{0.00001}{q_1^*}$$

Where:

RAD = risk associated dose in milligrams of toxicant per kilogram body weight per day (mg/kg/day).

0.00001 (1×10^{-5}) = incremental risk of developing cancer equal to 1 in 100,000.

q_1^* = slope factor $(mg/kg/day)^{-1}$.

(viii) If human epidemiologic data or other biological data (animal), or both, indicate that a chemical causes cancer via a threshold mechanism, then the risk associated dose may, on a case-by-case basis, be calculated using a method that assumes a threshold mechanism is operative.

(c) The fundamental principles for human health noncancer value development are as follows:

(i) Noncarcinogens shall generally be assumed to have a threshold dose or concentration below which no adverse effects should be observed. Therefore, the noncancer value is the maximum water concentration of a substance at or below which a lifetime exposure from drinking the water, consuming fish caught in the water, and ingesting water as a result of participating in water-related recreation activities is likely to be without appreciable risk of deleterious effects.

(ii) For some noncarcinogens, there may not be a threshold dose below which no adverse effects should be observed. Chemicals acting as genotoxic teratogens and germline mutagens are thought to possibly produce reproductive or developmental effects, or both, through a genetically linked mechanism that may have no threshold. Other chemicals also may not demonstrate a threshold. Values for these types of chemicals will be established on a case-by-case basis using appropriate assumptions reflecting the likelihood that no threshold exists.

(iii) All appropriate human and animal toxicologic data shall be reviewed and evaluated. To the maximum extent possible, data most specific to the environmentally relevant route of exposure shall be used. Oral exposure is preferred over dermal and inhalation exposure since, in most cases, the exposure routes of greatest concern are fish consumption and drinking water/incidental ingestion. If acceptable human epidemiologic data are not available, then animal data from species most biologically relevant to humans shall be used. In the absence of data to distinguish the most relevant species, data from the most sensitive animal species tested, that is, the species showing a toxic effect at the lowest administered dose given a relevant route of exposure should generally be used.

(iv) Minimum data requirements are specified in subdivision (a)(ii)(A) of this subrule. The experimental exposure level representing the highest level tested at which no adverse effects were demonstrated (NOAEL) from studies satisfying the minimum data requirements shall be used for value calculations. In the absence of a NOAEL, a LOAEL from studies satisfying the minimum data requirements may be used if based on relatively mild and reversible effects.

(v) Uncertainty factors shall be used to account for the uncertainties in predicting acceptable dose levels for the general human population based upon experimental animal data or limited human data. The uncertainty factors shall be determined as follows:

(A) An uncertainty factor of 1 to 10 shall be used when extrapolating from valid experimental results from studies on prolonged exposure to average healthy humans. This factor of up to tenfold is used to protect sensitive members of the human population.

(B) An uncertainty factor of 1 to 10 shall be used when extrapolating from valid results of long-term studies on experimental animals when results of studies of human exposure are not available or are inadequate. When considered with subparagraph (A) of this paragraph, a factor of up to one hundredfold is used in extrapolating data from the average animal to protect sensitive members of the human population.

(C) An uncertainty factor of 1 to 10 shall be used when extrapolating from animal studies for which the

exposure duration is less than chronic, but more than subchronic (90 days or more in length), or when other significant deficiencies in study quality are present, and when useful long-term human data are not available. When considered with subparagraphs (A) and (B) of this paragraph, a factor of up to one thousandfold is used in extrapolating data from less than chronic, but more than subchronic, studies for average animals to protect sensitive members of the human population from chronic exposure.

(D) An uncertainty factor of 1 to 3 shall be used when extrapolating from animal studies for which the exposure duration is less than subchronic (less than 90 days). When considered with subparagraphs (A), (B), and (C) of this paragraph, a factor of up to 3 thousandfold is used in extrapolating data from less than subchronic studies for average animals to protect sensitive members of the human population from chronic exposure.

(E) An additional uncertainty factor of 1 to 10 may be used when deriving a value from a LOAEL. The UF accounts for the lack of an identifiable NOAEL. The level of additional uncertainty applied may depend upon the severity and the incidence of the observed adverse effect.

(F) An additional uncertainty factor of 1 to 10 may be applied when there are limited effects data or incomplete subacute or chronic toxicity data, for example, reproductive/developmental data. The level of quality and quantity of the experimental data available and structure-activity relationships may be used to determine the factor selected.

(G) When deriving a UF for use in developing an HNV, the total uncertainty, as calculated following subparagraphs (A) to (F) of this paragraph, shall not exceed 10,000 for tier I values and 30,000 for tier II values.

(vi) All study results shall be converted, as necessary, to the standard unit for acceptable daily exposure of milligrams of toxicant per kilogram of body weight per day (mg/kg/day). Doses shall be adjusted for continuous exposure (7 days/week, 24 hours/day).

(vii) The acceptable daily exposure (ADE) shall be calculated as follows:

$$ADE = \frac{\text{NOAEL or LOAEL}}{UF}$$

Where:

ADE = acceptable daily exposure in milligrams of toxicant per kilogram body weight per day (mg/kg/day).

NOAEL/LOAEL = the study NOAEL or LOAEL.

UF = the uncertainty factor derived in paragraph (v) of this subdivision.

(d) Human health cancer values shall be derived using the following equation:

$$HCV = \frac{RAD \times BW}{WC + [(FC_{TL3} \times BAF_3) + (FC_{TL4} \times BAF_4)]}$$

Where:

HCV = human cancer value in milligrams per liter (mg/L).

RAD = risk associated dose in milligrams toxicant per kilogram body weight per day (mg/kg/day) that is associated with a lifetime incremental cancer risk equal to 1 in 100,000 for individual chemicals.

BW = weight of an average human (BW = 70 kg).

WC_d = per capita water consumption, both drinking and incidental exposure, for surface waters specified in R 323.1100(8) = 2 liters/day, or

WC_r = per capita incidental daily water ingestion for surface waters not specified in R 323.1100(8) = 0.01 liters/day.

FC_{TL3} = consumption of regionally caught trophic level 3 fish = 0.0036 kg/day.

FC_{TL4} = consumption of regionally caught trophic level 4 fish = 0.0114 kg/day.

BAF_3 = bioaccumulation factor for trophic level 3 fish, as derived using the BAF methodology in subrule (5) of this rule.

BAF_4 = bioaccumulation factor for trophic level 4 fish, as derived using the BAF methodology in subrule (5) of this rule.

(e) Human noncancer values shall be derived using the following equation:

$$HNV = \frac{ADE \times BW \times RSC}{WC + [(FC_{TL3} \times BAF_3) + (FC_{TL4} \times BAF_4)]}$$

Where:

HNV = human noncancer value in milligrams per liter (mg/l).
ADE = acceptable daily exposure in milligrams toxicant per kilogram body weight per day (mg/kg/day).
RSC = relative source contribution factor of 0.8. An RSC derived from actual exposure data may be developed on a case-by-case basis.
BW = weight of an average human (BW = 70 kg).
WC_d = per capita water consumption, both drinking and incidental exposure, for surface waters specified in R 323.1100(8) = 2 liters/day, or
WC_r = per capita incidental daily water ingestion for surface waters not specified in R 323.1100(8) = 0.01 liters/day.
FC_{TL3} = consumption of regionally caught trophic level 3 fish = 0.0036 kg/day.
FC_{TL4} = consumption of regionally caught trophic level 4 fish = 0.0114 kg/day.
BAF_3 = human health bioaccumulation factor for edible portion of trophic level 3 fish, as derived using the BAF methodology in subrule (5) of this rule.
BAF_4 = human health bioaccumulation factor for edible portion of trophic level 4 fish, as derived using the BAF methodology in subrule (5) of this rule.
(f) Determine, on the basis of all pertinent data available, whether the human health cancer and noncancer values derived are consistent with sound scientific evidence. If they are not, the values shall be adjusted to more appropriately reflect the weight of available scientific evidence.
(g) The tier I and tier II human health values shall be applied as monthly averages, and compliance shall be based on the average of all daily measurements taken at a site within the same calendar month.
(h) Human health values may be modified on a site-specific basis to be more or less stringent to reflect local environmental conditions or local human exposure. Less stringent human health values shall be protective of designated uses of the surface waters of the state and shall be based on sound scientific rationale. Any such modifications shall be derived by making appropriate site-specific adjustments to the methodology in this subrule and shall be approved by the department.
(5) Bioaccumulation factors (BAFs) used in the derivation of values in subrules (3) and (4) of this rule shall be developed according to the following process:
(a) Baseline BAFs shall be derived using the following 4 methods, listed in order of preference:
(i) A measured baseline BAF for an organic or inorganic chemical derived from a field study of acceptable quality.
(ii) A predicted baseline BAF for an organic chemical derived using field-measured biota-sediment accumulation factors (BSAFs) of acceptable quality.
(iii) A predicted baseline BAF for an organic or inorganic chemical derived from a bioconcentration factor (BCF) measured in a laboratory study of acceptable quality and a food chain multiplier (FCM).
(iv) A predicted baseline BAF for an organic chemical derived from an octanol-water partition coefficient (K_{ow}) of acceptable quality and an FCM.
(b) Selection of data for deriving BAFs shall be conducted as follows:
(i) Procedural and quality assurance requirements shall be met for field-measured BAFs as follows:
(A) The field studies used shall be limited to studies conducted in the Great Lakes system with fish at or near the top of the aquatic food chain (trophic levels 3 or 4 or 3 and 4).
(B) The trophic level of the fish species shall be determined.
(C) The site of the field study should not be so unique that the BAF cannot be extrapolated to other locations where the values will apply.
(D) For organic chemicals, the percent lipid shall be either measured or reliably estimated for the tissue used in the determination of the BAF.
(E) The concentration of the chemical in the water shall be measured in a way that can be related to particulate organic carbon (POC) or dissolved organic carbon (DOC), or both, and should be relatively constant during the steady-state time period.
(F) For organic chemicals that have a log K_{ow} of more than 4, the concentrations of POC and DOC in the ambient water shall be either measured or reliably estimated.
(G) For inorganic and organic chemicals, BAFs shall be used only if they are expressed on a wet weight basis. BAFs reported on a dry weight basis cannot be converted to wet weight unless a conversion factor is measured or reliably estimated for the tissue used in the determination of the BAF.
(ii) All of the following procedural and quality assurance requirements shall be met for field-measured BSAFs:
(A) The field studies used shall be limited to studies conducted in the Great Lakes system with fish at or near

the top of the aquatic food chain, for example, in trophic levels 3 or 4 or 3 and 4.
(B) Samples of surface sediments (0 to 1 centimeters is ideal) shall be from locations in which there is net deposition of fine sediment and is representative of average surface sediment in the vicinity of the organism.
(C) The K_{ow}s used shall be of acceptable quality as described in paragraph (v) of this subdivision.
(D) The site of the field study should not be so unique that the resulting BAF cannot be extrapolated to other locations where the values will apply.
(E) The trophic level of the fish species shall be determined.
(F) The percent lipid shall be either measured or reliably estimated for the tissue used in the determination of the BAF.
(iii) The following procedural and quality assurance requirements shall be met for laboratory-measured BCFs:
(A) The test organism shall not be diseased, unhealthy, or adversely affected by the concentration of the chemical.
(B) The total concentration of the chemical in the water shall be measured and should be relatively constant during the steady-state time period.
(C) The organisms shall be exposed to the chemical using a flow-through or renewal procedure.
(D) For organic chemicals, the percent lipid shall be either measured or reliably estimated for the tissue used in the determination of the BCF.
(E) For organic chemicals that have a log K_{ow} of more than 4, the concentrations of POC and DOC in the test solution shall be either measured or reliably estimated.
(F) Laboratory-measured BCFs should be determined using fish species, but BCFs determined with molluscs and other invertebrates may be used with caution. For example, because invertebrates metabolize some chemicals less efficiently than vertebrates, a baseline BCF determined for such a chemical using invertebrates is expected to be higher than a comparable baseline BCF determined using fish.
(G) If laboratory-measured BCFs increase or decrease as the concentration of the chemical increases in the test solutions in a bioconcentration test, then the BCF measured at the lowest test concentration that is above concentrations existing in the control water shall be used. A BCF should not be calculated from a control treatment. The concentrations of an inorganic chemical in a bioconcentration test should be greater than normal background levels and greater than levels required for normal nutrition of the test species if the chemical is a micronutrient, but below levels that adversely affect the species. Bioaccumulation of an inorganic chemical might be overestimated if concentrations are at or below normal background levels due to, for example, nutritional requirements of the test organisms.
(H) For inorganic and organic chemicals, BCFs shall be used only if they are expressed on a wet weight basis. BCFs reported on a dry weight basis cannot be converted to wet weight unless a conversion factor is measured or reliably estimated for the tissue used in the determination of the BAF.
(I) BCFs for organic chemicals may be based on measurement of radioactivity only when the BCF is intended to include metabolites or when there is confidence that there is no interference due to metabolites.
(J) The calculation of the BCF shall appropriately address growth dilution.
(K) Other aspects of the methodology used should be similar to the aspects of the methodology described in the american society for testing and materials (ASTM) standard entitled "Standard Guide for Conducting Bioconcentration Tests with Fishes and Saltwater Bivalve Molluscs," Standard E 1022-94 (1994), which is adopted by reference in R 323.1117.
(iv) The following procedural and quality assurance requirements shall be met for predicted BCFs:
(A) The K_{ow} used shall be of acceptable quality as described in paragraph (v) of this subdivision.
(B) The predicted baseline BCF shall be calculated using the following equation:
Predicted baseline BCF = K_{ow}
Where:
K_{ow} = octanol-water partition coefficient.
(v) The value of K_{ow} used for an organic chemical shall be determined by giving priority to the experimental and computational techniques used as follows:

Log K_{ow} <4:	Priority	Technique
1	Slow-stir	
1	Generator-column	
1	Shake-flask	

2	Reverse-phase liquid chromatography on C18 chromatography packing with extrapolation to 0% solvent
3	Reverse-phase liquid chromatography on C18 chromatography packing without extrapolation to 0% solvent
4	Calculated by the CLOGP program

Log K_{ow} >4:	Priority	Technique
1	Slow-stir	
1	Generator-column	
2	Reverse-phase liquid chromatography on C18 chromatography packing with extrapolation to 0% solvent	
3	Reverse-phase liquid chromatography on C18 chromatography packing without extrapolation to 0% solvent	
4	Shake-flask	
5	Calculated by the CLOGP program	

The CLOGP program is a computer program available from Pomona College. A value of K_{ow} that seems to be different from the others should be considered an outlier and not used. The value of K_{ow} used for an organic chemical shall be the geometric mean of the available K_{ow}s with highest priority or can be calculated from the arithmetic mean of the available log K_{ow}s with the highest priority. Because it is an intermediate value in the derivation of a BAF, the value used for the K_{ow} of a chemical shall not be rounded to fewer than 3 significant digits, and a value for log K_{ow} shall not be rounded to fewer than 3 significant digits after the decimal point.

(c) It is assumed that BAFs and BCFs for organic chemicals can be extrapolated on the basis of percent lipid from one tissue to another and from one aquatic species to another in most cases. Because BAFs and BCFs for organic chemicals are related to the percent lipid, it does not make any difference whether the tissue sample is whole body or edible portion, but both the BAF (or BCF) and the percent lipid shall be determined for the same tissue. The percent lipid of the tissue should be measured during the BAF or BCF study, but in some cases the percent lipid can be reliably estimated from measurements on tissue from other organisms. If percent lipid is not reported for the test organisms in the original study, then it may be obtained from the author or, in the case of a laboratory study, lipid data for the same or a comparable laboratory population of test organisms that were used in the original study may be used. The lipid-normalized concentration, C_ℓ, of a chemical in tissue is defined using the following equation:

$$C_\ell = \frac{C_B}{f_\ell}$$

Where:

C_B = concentration of the organic chemical in the tissue of aquatic biota (either whole organism or specified tissue) (mg/g).

f_ℓ = fraction of the tissue that is lipid.

(d) By definition, baseline BAFs and BCFs for organic chemicals, whether measured or predicted, are based on the concentration of the chemical that is freely dissolved in the ambient water in order to account for bioavailability. The relationship between the total concentration of the chemical in the water, that is, that which is freely dissolved plus that which is sorbed to particulate organic carbon or to dissolved organic carbon, to the freely dissolved concentration of the chemical in the ambient water shall be calculated using the following equation:

$$C_w^{fd} = (f_{fd})(C_w^t)$$

Where:

C_w^{fd} = freely dissolved concentration of the organic chemical in the ambient water.

C_w^t = total concentration of the organic chemical in the ambient water.

f_{fd} = fraction of the total chemical in the ambient water that is freely dissolved.

The fraction of the total chemical in the ambient water that is freely dissolved, f_{fd}, shall be calculated using the following equation:

$$f_{fd} = \frac{1}{1 + \frac{(DOC)(K_{OW})}{10} + (POC)(K_{OW})}$$

Where:
DOC = concentration of dissolved organic carbon, kg of dissolved organic carbon/L of water.
K_{ow} = octanol-water partition coefficient of the chemical.
POC = concentration of particulate organic carbon, kg of particulate organic carbon/L of water.
(e) In the absence of a field-measured BAF or a predicted BAF derived from a BSAF, an FCM shall be used to calculate the baseline BAF for trophic levels 3 and 4 from a laboratory-measured or predicted BCF. For an organic chemical, the FCM used shall be derived from table 9 using the chemical's log K_{ow} and linear interpolation. An FCM of more than 1.0 applies to most organic chemicals that have a log K_{ow} of 4 or more. The trophic level used shall take into account the age or size of the fish species consumed by the human, avian, or mammalian predator because for some species of fish the young are in trophic level 3 whereas the adults are in trophic level 4.
(f) A baseline BAF shall be calculated from a field-measured BAF of acceptable quality using the following equation:

$$\text{Baseline BAF} = \left[\frac{\text{Measured } BAF_T^t}{f_{fd}} - 1 \right] \left(\frac{1}{f_\ell} \right)$$

Where:
BAF_T^t = BAF based on total concentration in tissue and water.
f_ℓ = fraction of the tissue that is lipid.
f_{fd} = fraction of the total chemical that is freely dissolved in the ambient water.
The trophic level to which the baseline BAF applies is the same as the trophic level of the organisms used in the determination of the field-measured BAF. For each trophic level, a species mean measured baseline BAF shall be calculated as the geometric mean if more than 1 measured baseline BAF is available for a given species. For each trophic level, the geometric mean of the species mean measured baseline BAFs shall be calculated. If a baseline BAF based on a measured BAF is available for either trophic level 3 or 4, but not both, then a measured baseline BAF for the other trophic level shall be calculated using the ratio of the FCMs that are obtained by linear interpolation from table 9 for the chemical.
(g) A baseline BAF for organic chemical "i" shall be calculated from a field-measured BSAF of acceptable quality using the following equation:

$$(\text{Baseline BAF})_i = (\text{Baseline BAF})_r \bullet \frac{(BSAF)_i \bullet (K_{OW})_i}{(BSAF)_r \bullet (K_{OW})_r}$$

Where:
$(BSAF)_i$ = BSAF for chemical i.
$(BSAF)_r$ = BSAF for the reference chemical r.
$(K_{ow})_i$ = octanol-water partition coefficient for chemical i.
$(K_{ow})_r$ = octanol-water partition coefficient for the reference chemical r.
A BSAF shall be calculated using the following equation:

$$BSAF = \frac{C_\ell}{C_{SOC}}$$

Where:
C_ℓ = the lipid-normalized concentration of the chemical in tissue.
C_{soc} = the organic carbon-normalized concentration of the chemical in sediment.
The organic carbon-normalized concentration of a chemical in sediment, C_{soc}, shall be calculated using the following equation:

$$C_{SOC} = \frac{C_S}{f_{OC}}$$

Where:
C_s = concentration of chemical in sediment (mg/g sediment).
f_{oc} = fraction of the sediment that is organic carbon.
Predicting BAFs from BSAFs requires data from a steady-state or near steady-state condition between sediment and ambient water for both a reference chemical "r" with a field-measured BAF_{ℓ}^{fd} and other chemicals "n=i" for which BSAFs are to be determined. The trophic level to which the baseline BAF applies is the same as the trophic level of the organisms used in the determination of the BSAF. For each trophic level, a species mean baseline BAF shall be calculated as the geometric mean if more than 1 baseline BAF is predicted from BSAFs for a given species. For each trophic level, the geometric mean of the species mean baseline BAFs derived using BSAFs shall be calculated. If a baseline BAF based on a measured BSAF is available for either trophic level 3 or 4, but not both, a baseline BAF for the other trophic level shall be calculated using the ratio of the FCMs that are obtained by linear interpolation from table 9 for the chemical.
(h) A baseline BAF for trophic level 3 and a baseline BAF for trophic level 4 shall be calculated from a laboratory-measured BCF of acceptable quality and aN FCM using the following equation:

$$\text{Baseline BAF} = (\text{FCM})\left[\frac{\text{Measured } BCF_T^t}{f_{fd}} - 1\right]\left(\frac{1}{f_{\ell}}\right)$$

Where:
BCF_T^t = BCF based on total concentration in tissue and water.
f_{ℓ} = fraction of the tissue that is lipid.
f_{fd} = fraction of the total chemical in the test water that is freely dissolved.
FCM = the food chain multiplier obtained from table 9 by linear interpolation for trophic level 3 or 4, as necessary.
For each trophic level, a species mean baseline BAF shall be calculated as the geometric mean if more than 1 baseline BAF is predicted from laboratory-measured BCFs for a given species. For each trophic level, the geometric mean of the species mean baseline BAFs based on laboratory-measured BCFs shall be calculated.
(i) A baseline BAF for trophic level 3 and a baseline BAF for trophic level 4 shall be calculated from a K_{ow} of acceptable quality and a**n** FCM using the following equation:

$$\text{Baseline BAF} = (\text{FCM})(\text{predicted baseline BCF}) = (\text{FCM})(K_{OW})$$

Where:
FCM = the food chain multiplier obtained from table 9 by linear interpolation for trophic level 3 or 4, as necessary.
K_{ow} = octanol-water partition coefficient.
(j) Human health and wildlife BAFs for organic chemicals shall be derived as follows:
(i) The K_{ow} of the chemical shall be used with a POC concentration of 0.00000004 kg/l and a DOC concentration of 0.000002 kg/l to yield the fraction freely dissolved:

$$f_{fd} = \frac{1}{1 + \frac{(DOC)(Kow)}{10} + (POC)(K_{ow})}$$

$$= \frac{1}{1 + \frac{(0.000002\ kg/L)(Kow)}{10} + (0.00000004\ kg/L)(K_{ow})}$$

$$= \frac{1}{1 + (0.00000024\ kg/L)(K_{ow})}$$

(ii) The human health BAF for an organic chemical shall be calculated using the following equations:
(A) For trophic level 3:

$$\text{Human health } BAF_{TL\ 3}^{HH} = [(\text{baseline BAF})(0.0182) + 1](f_{fd})$$

(B) For trophic level 4:

Human health BAF $_{TL\ 4}^{HH}$ = [(baseline BAF)(0.0310)+ 1](f_{fd})

Where:

0.0182 and 0.0310 are the standardized fraction lipid values for trophic levels 3 and 4, respectively, that are used to derive human health values.

(iii) The wildlife BAF for an organic chemical shall be calculated using the following equations:

(A) For trophic level 3:

Wildlife BAF $_{TL\ 3}^{WL}$ = [(baseline BAF)(0.0646)+ 1](f_{fd})

(B) For trophic level 4:

Wildlife BAF $_{TL\ 4}^{WL}$ = [(baseline BAF)(0.1031)+ 1](f_{fd})

Where:

0.0646 and 0.1031 are the standardized fraction lipid values for trophic levels 3 and 4, respectively, that are used to derive wildlife values.

(k) To calculate human health and wildlife BAFs for inorganic chemicals, the baseline BAFs for trophic levels 3 and 4 are both assumed to equal the BCF determined for the chemical with fish. The FCM is assumed to be 1 for both trophic levels 3 and 4. However, an FCM greater than 1 might be applicable to some metals, such as mercury, if, for example, an organometallic form of the metal biomagnifies. The process specified in paragraphs (i) and (ii) of this subdivision shall be followed:

(i) The human health BAFs for inorganic chemicals shall be calculated as follows:

(A) Measured BAFs and BCFs used to determine human health BAFs for inorganic chemicals shall be based on edible tissue of freshwater fish unless it is demonstrated that whole-body BAFs or BCFs are similar to edible-tissue BAFs or BCFs. BCFs and BAFs based on measurements of aquatic plants and invertebrates shall not be used in the derivation of human health values.

(B) If 1 or more field-measured baseline BAFs for an inorganic chemical are available from studies conducted in the Great Lakes system with the muscle of fish, for each trophic level, a species mean measured baseline BAF shall be calculated as the geometric mean if more than 1 measured BAF is available for a given species; and the geometric mean of the species mean measured baseline BAFs shall be used as the human health BAF for that chemical.

(C) If an acceptable measured baseline BAF is not available for an inorganic chemical and 1 or more acceptable edible-portion laboratory-measured BCFs are available for the chemical, then a predicted baseline BAF shall be calculated by multiplying the geometric mean of the BCFs times an FCM. The FCM will be 1.0 unless chemical-specific biomagnification data support using a multiplier other than 1.0. The predicted baseline BAF shall be used as the human health BAF for that chemical.

(ii) The wildlife BAFs for inorganic chemicals shall be calculated as follows:

(A) Measured BAFs and BCFs used to determine wildlife BAFs for inorganic chemicals shall be based on whole-body freshwater fish and invertebrate data unless it is demonstrated that edible-tissue BAFs or BCFs are similar to whole-body BAFs or BCFs.

(B) If 1 or more field-measured baseline BAFs for an inorganic chemical are available from studies conducted in the Great Lakes system with the whole body of fish or invertebrates, for each trophic level, a species mean measured baseline BAF shall be calculated as the geometric mean if more than 1 measured BAF is available for a given species; and the geometric mean of the species mean measured baseline BAFs shall be used as the wildlife BAF for that chemical.

(C) If an acceptable measured baseline BAF is not available for an inorganic chemical and 1 or more acceptable whole-body laboratory-measured BCFs are available for the chemical, then a predicted baseline BAF shall be calculated by multiplying the geometric mean of the BCFs times an FCM. The FCM will be 1.0 unless chemical-specific biomagnification data support using a multiplier other than 1.0. The predicted baseline BAF shall be used as the wildlife BAF for that chemical.

(l) For both organic and inorganic chemicals, human health and wildlife BAFs for both trophic levels shall be reviewed for consistency with all available data concerning the bioaccumulation, bioconcentration, and metabolism of the chemical. For example, information concerning octanol-water partitioning, molecular size, or other physicochemical properties that might enhance or inhibit bioaccumulation should be considered for organic chemicals. BAFs derived in accordance with the methodology specified in this subrule shall be modified if changes are justified by available data.

(m) BAFs may be modified on a site-specific basis to be higher or lower to reflect local environmental

conditions. Any site-specific modifications shall be derived by making appropriate site-specific adjustments to the methodology in this subrule and shall be approved by the department. Lower BAFs shall be protective of designated uses of the surface waters of the state and shall be based on sound scientific rationale to address site-specific factors, including all of the following factors:

(i) The fraction of the total chemical that is freely dissolved in the ambient water is different than that used to derive the statewide BAFs.

(ii) Input parameters of the Gobas model and the disequilibrium constant are different at the site than the input parameters and the disequilibrium constant used to derive the statewide BAFs.

(iii) The percent lipid of aquatic organisms that are consumed and occur at the site is different than the percent lipid of aquatic organisms used to derive the statewide BAFs.

(iv) Site-specific field-measured BAFs or BSAFs are determined.

(6) In addition to the values derived by the method set forth in subrule (2) of this rule, biological techniques, including whole effluent toxicity requirements, may be used to assure that the acute and chronic aquatic life requirements of these rules are met in the surface waters of the state.

(7) If new information becomes available for the department to make a determination that any of the water quality values in tables 1, 2, 4, 7, and 8 should be revised, then a rule change shall be initiated by the department to modify the values. The revised values will be considered for the purposes of developing water quality-based effluent limits for national pollutant discharge elimination system permits and appropriate adjustments shall be made when the permit is reissued.

(8) Tables 1 to 9 read as follows:

Table 1. Aquatic Maximum Values for Protection of Aquatic Life in Ambient Waters.

Chemical	**AMV[1] (ug/L)**	**Conversion Factor (CF)**
Arsenic[2]	340	1.0
Cadmium[2]	$(e^{1.128(\ln H)-3.6867})(CF)$	1.136672-(lnH)(0.041838)
Chromium (III)[2]	$(e^{0.819(\ln H)+3.7256})(CF)$	0.316
Chromium (VI)[2]	16	0.982
Copper[2]	$(e^{0.9422(\ln H)-1.7})(CF)$	0.96
Cyanide[3]	22	n/a
Dieldrin[4]	0.24	n/a
Endrin[4]	0.086	n/a
Lindane[4]	0.95	n/a
Mercury[2]	1.4	0.85
Nickel[2]	$(e^{0.846(\ln H)+2.255})(CF)$	0.998
Parathion[4]	0.065	n/a
Pentachlorophenol[4]	$e^{1.005(pH)-4.869}$	n/a
Zinc[2]	$(e^{0.8473(\ln H)+0.884})(CF)$	0.978

[1]AMV is the aquatic maximum value and is equal to 1/2 the FAV. The AMV shall be rounded to 2 significant digits.
[2]Value is expressed as a dissolved concentration calculated using the specified conversion factor.
[3]Value is expressed as free cyanide.
[4]Value is expressed as a total concentration.

Note: The term "lnH" is the natural log of hardness, expressed as mg/L $CaCO_3$.
The term "n/a" means not applicable.
Table 2. Chronic Water Quality Values for Protection of Aquatic Life in Ambient Waters.

Chemical	**FCV[1] (ug/L)**	**Conversion Factor (CF)**
Arsenic[2]	150	1.0
Cadmium[2]	$(e^{0.7852(lnH)-2.715})(CF)$	1.101672-(lnH)(0.041838)
Chromium (I**II**~~i~~)[2]	$(e^{0.819(lnH)+0.6848})(CF)$	0.86
Chromium (V**I**~~i~~)[2]	11	0.962
Copper[2]	$(e^{0.8545(lnH)-1.702})(CF)$	0.96
Cyanide[3]	5.2	n/a
Dieldrin[4]	0.056	n/a
Endrin[4]	0.036	n/a
Mercury[2]	0.77	0.85
Nickel[2]	$(e^{0.846(lnH)+0.0584})(CF)$	0.997
Parathion[4]	0.013	n/a
Pentachlorophenol[4]	$e^{1.005(pH)-5.134}$	n/a
Selenium[5]	5	n/a
Zinc[2]	$(e^{0.8473(lnH)+0.884})(CF)$	0.986

[1]FCV is the final chronic value. The FCV shall be rounded to 2 significant digits.
[2]Value is expressed as a dissolved concentration calculated using the specified conversion factor.
[3]Value is expressed as free cyanide.
[4]Value is expressed as a total concentration.
[5]Value is expressed as a total recoverable concentration.

Note: The term "lnH" is the natural log of hardness, as expressed in mg/L $CaCO_3$.
The term "n/a" means not applicable.
Table 3. Tier II Acute Factors.

Number of minimum data requirements satisfied	Acute Factor
2.....	13.0
3.....	8.0
4.....	7.0
5.....	6.1
6.....	5.2
7.....	4.3

Table 4. Water Quality Values for Protection of Wildlife.

Chemical	Wildlife Value (ug/L)
DDT and metabolites	0.000011
Mercury, including methylmercury	0.0013
PCBs (class)	0.00012
2,3,7,8-TCDD	0.0000000031

Table 5. Bioaccumulative Chemicals of Concern.

Chlordane
4,4'-DDD
4,4'-DDE
4,4'-DDT
Dieldrin
Hexachlorobenzene
Hexachlorobutadiene
Hexachlorocyclohexanes
alpha-Hexachlorocyclohexane
beta-Hexachlorocyclohexane
delta-Hexachlorocyclohexane
Lindane
Mercury
Mirex
Octachlorostyrene

Polychlorinated biphenyls (PCBs)
Pentachlorobenzene
Photomirex
2,3,7,8-TCDD
1,2,3,4-Tetrachlorobenzene
1,2,4,5-tetrachlorobenzene
Toxaphene

Table 6. Exposure Parameters for the 5 Representative Species Identified for Protection.

Species	Adult Body Weight	Water Ingestion Rate	Food Ingestion Rate of Prey In Each Trophic Level	Trophic Level of Prey
Units	kg	L/day	kg/day	Percent of diet
Mink	0.80	0.081	TL3: 0.159 Other: 0.0177	TL3: 90 % Other: 10 %
Otter	7.4	0.600	TL3: 0.977 TL4: 0.244	TL3: 80 % TL4: 20 %
Kingfisher	0.15	0.017	TL3: 0.0672	TL3: 100 %
Herring gull	1.1	0.063	TL3: 0.192 TL4: 0.0480 Other: 0.0267	Fish: 90 % TL3: 80 % TL4: 20 % Other: 10 %
Bald eagle	4.6	0.160	TL3: 0.371 TL4: 0.0929 PB: 0.0283 Other: 0.0121	Fish: 92 % TL3: 80 % TL4: 20 % Birds: 8 % PB: 70 % Non-aquatic: 30 %

Note: TL3 = trophic level 3 fish.
TL4 = trophic level 4 fish.
PB = piscivorous birds.
Other = nonaquatic birds and mammals.

Table 7. Human Noncancer Values for Protection of Human Health.

Chemical	HNV (ug/L) Drinking	Nondrinking
Benzene	19	510
Chlordane	0.0014	0.0014
Chlorobenzene	470	3200
Cyanides	600	48000
DDT	0.002	0.002
Dieldrin	0.00041	0.00041
2,4-dimethylphenol	450	8700
2,4-dinitrophenol	55	2800
Hexachlorobenzene	0.046	0.046
Hexachloroethane	6.0	7.6
Lindane	0.47	0.50
Mercury (including methylmercury)	0.0018	0.0018
Methylene chloride	1600	90000
2,3,7,8-TCDD	0.000000067	0.000000067
Toluene	5600	51000

Table 8. Human Cancer Values for the Protection of Human Health.

Chemical	HCV (ug/L) Drinking	Nondrinking
Benzene	12	310
Chlordane	0.00025	0.00025
DDT	0.00015	0.00015
Dieldrin	0.0000065	0.0000065
Hexachlorobenzene	0.00045	0.00045
Hexachloroethane	5.3	6.7
Methylene chloride	47	2600
PCBs (class)	0.000026	0.000026
2,3,7,8-TCDD	0.0000000086	0.0000000086
Toxaphene	0.000068	0.000068
Trichloroethylene	29	370

Table 9. Food Chain Multipliers for Trophic Levels 2, 3, and 4.

Trophic Log K_{ow}	Trophic[a] Level 2	Trophic Level 3	Level 4	
2.0	1.000	1.005	1.000	
2.5	1.000	1.010	1.002	
3.0	1.000	1.028	1.007	
3.1	1.000	1.034	1.007	
3.2	1.000	1.042	1.009	
3.3	1.000	1.053	1.012	
3.4	1.000	1.067	1.014	
3.5	1.000	1.083	1.019	
3.6	1.000	1.103	1.023	

3.7	1.000	1.128	1.033
3.8	1.000	1.161	1.042
3.9	1.000	1.202	1.054
4.0	1.000	1.253	1.072
4.1	1.000	1.315	1.096
4.2	1.000	1.380	1.130
4.3	1.000	1.491	1.178
4.4	1.000	1.614	1.242
4.5	1.000	1.766	1.334
4.6	1.000	1.950	1.459
4.7	1.000	2.175	1.633
4.8	1.000	2.452	1.871
4.9	1.000	2.780	2.193
5.0	1.000	3.181	2.612
5.1	1.000	3.643	3.162
5.2	1.000	4.188	3.873
5.3	1.000	4.803	4.742
5.4	1.000	5.502	5.821
5.5	1.000	6.266	7.079
5.6	1.000	7.096	8.551
5.7	1.000	7.962	10.209
5.8	1.000	8.841	12.050
5.9	1.000	9.716	13.964
6.0	1.000	10.556	15.996
6.1	1.000	11.337	17.783
6.2	1.000	12.064	19.907
6.3	1.000	12.691	21.677
6.4	1.000	13.228	23.281
6.5	1.000	13.662	24.604
6.6	1.000	13.980	25.645
6.7	1.000	14.223	26.363
6.8	1.000	14.355	26.669
6.9	1.000	14.388	26.669
7.0	1.000	14.305	26.242
7.1	1.000	14.142	25.468

Table 9. Continued.

Trophic Log K_{ow}	Trophic[a] Level 2	Trophic Level 3	Level 4
7.2	1.000	13.852	24.322
7.3	1.000	13.474	22.856
7.4	1.000	12.987	21.038
7.5	1.000	12.517	18.967
7.6	1.000	11.708	16.749
7.7	1.000	10.914	14.388
7.8	1.000	10.069	12.050
7.9	1.000	9.162	9.840
8.0	1.000	8.222	7.798
8.1	1.000	7.278	6.012
8.2	1.000	6.361	4.519
8.3	1.000	5.489	3.311
8.4	1.000	4.683	2.371

8.5	1.000	3.296	1.146
8.7	1.000	2.732	0.778
8.8	1.000	2.246	0.521
8.9	1.000	1.837	0.345
9.0	1.000	1.493	0.226

[a] The FCMs for trophic level 3 are the geometric mean of the FCMs for sculpin and alewife.

History: 1954 ACS 77, Eff. Dec. 13, 1973; 1979 AC; 1984 MR 12, Eff.Jan. 18, 1985; 1997 MR 7, Eff. July 28, 1997; 2006 MR 1, Eff. Jan. 13, 2006.

Source: 1997 AACS.

R 323.1058

Source: 1986 AACS.

R 323.1060 Plant nutrients.

Rule 60. (1) Consistent with Great Lakes protection, phosphorus which is or may readily become available as a plant nutrient shall be controlled from point source discharges to achieve 1 milligram per liter of total phosphorus as a maximum monthly average effluent concentration unless other limits, either higher or lower, are deemed necessary and appropriate by the department.

(2) In addition to the protection provided under subrule (1) of this rule, nutrients shall be limited to the extent necessary to prevent stimulation of growths of aquatic rooted, attached, suspended, and floating plants, fungi or bacteria which are or may become injurious to the designated uses of the surface waters of the state.

History: 1954 ACS 77, Eff. Dec. 13, 1973; 1979 AC; 1986 MR 11, Eff.Dec. 2, 1986; 2006 MR 1, Eff. Jan. 13, 2006.

R 323.1062 Microorganisms.

Rule 62. (1) All surface waters of the state protected for total body contact recreation shall not contain more than 130 Escherichia coli (E. coli) per 100 milliliters, as a 30-day geometric mean. Compliance shall be based on the geometric mean of all individual samples taken during 5 or more sampling events representatively spread over a 30-day period. Each sampling event shall consist of 3 or more samples taken at representative locations within a defined sampling area. At no time shall the surface waters of the state protected for total body contact recreation contain more than a maximum of 300 E. coli per 100 milliliters. Compliance shall be based on the geometric mean of 3 or more samples taken during the same sampling event at representative locations within a defined sampling area.

(2) All surface waters of the state protected for partial body contact recreation shall not contain more than a maximum of 1,000 E. coli per 100 milliliters. Compliance shall be based on the geometric mean of 3 or more samples, taken during the same sampling event, at representative locations within a defined sampling area.

(3) Discharges containing treated or untreated human sewage shall not contain more than 200 fecal coliform bacteria per 100 milliliters, based on the geometric mean of all of 5 or more samples taken over a 30-day period, nor more than 400 fecal coliform bacteria per 100 milliliters, based on the geometric mean of all of 3 or more samples taken during any period of discharge not to exceed 7 days. Other indicators of adequate disinfection may be utilized where approved by the department.

(4) The department may suspend the provisions of subrule (3) of this rule, for the purpose of discharge permit issuance, from November 1 to April 30, upon an adequate demonstration by the applicant that designated uses will be protected. At a minimum, the provisions of subrule (2) of this rule shall be met.

(5) Acceptable levels of infectious organisms that are not specifically addressed by the provisions of subrules (1), (2), and (3) of this rule shall be established by the department on a case-by-case basis to assure that designated uses are protected.

History: 1954 ACS 77, Eff. Dec. 13, 1973; 1979 AC; 1986 MR 11, Eff. Dec. 2, 1986; 1994 MR 5, Eff. May 20, 1994; 2006 MR 1, Eff. Jan. 13, 2006.

R 323.1064 Dissolved oxygen in Great Lakes, connecting waters, and inland streams.

Rule 64. (1) A minimum of 7 milligrams per liter of dissolved oxygen in all Great Lakes and connecting waterways shall be maintained, and, except for inland lakes as prescribed in R 323.1065, a minimum of 7 milligrams per liter of dissolved oxygen shall be maintained at all times in all inland waters designated by these

rules to be protected for coldwater fish. In all other waters, except for inland lakes as prescribed by R 323.1065, a minimum of 5 milligrams per liter of dissolved oxygen shall be maintained. These standards do not apply for a limited warmwater fishery use subcategory or limited coldwater fishery use subcategory established pursuant to R 323.1100(11) or during those periods when the standards specified in subrule (2) of this rule apply.

(2) Surface waters of the state which do not meet the standards set forth in subrule (1) of this rule shall be upgraded to meet those standards. The department may issue permits pursuant to R 323.2145 which establish schedules to achieve the standards set forth in subrule (1) of this rule for point source discharges to surface waters which do not meet the standards set forth in subrule (1) of this rule and which commenced discharge before December 2, 1986. For point source discharges which commenced before December 2, 1986, the dischargers may demonstrate to the department that the dissolved oxygen standards specified in subrule (1) of this rule are not attainable through further feasible and prudent reductions in their discharges or that the diurnal variation between the daily average and daily minimum dissolved oxygen concentrations in those waters exceeds 1 milligram per liter, further reductions in oxygen-consuming substances from such discharges will not be required, except as necessary to meet the interim standards specified in this subrule, until comprehensive plans to upgrade these waters to the standards specified in subrule (1) of this rule have been approved by the department and orders, permits, or other actions necessary to implement the approved plans have been issued by the department. In the interim, all of the following standards apply:

(a) For surface waters of the state designated for use for coldwater fish, except for inland lakes as prescribed in R 323.1065, the dissolved oxygen shall not be lowered below a minimum of 6 milligrams per liter at the design flow during the warm weather season in accordance with R 323.1090(2) and (3). At the design flows during other seasonal periods, as provided in R 323.1090(3), a minimum of 7 milligrams per liter shall be maintained. At flows greater than the design flows, dissolved oxygen shall be higher than the respective minimum values specified in this subdivision.

(b) For surface waters of the state designated for use for warmwater fish and other aquatic life, except for inland lakes as prescribed in R 323.1065, the dissolved oxygen shall not be lowered below a minimum of 4 milligrams per liter, or below 5 milligrams per liter as a daily average, at the design flow during the warm weather season in accordance with
R 323.1090(3) and (4). At the design flows during other seasonal periods as provided in R 323.1090(3), a minimum of 5 milligrams per liter shall be maintained. At flows greater than the design flows, dissolved oxygen shall be higher than the respective minimum values specified in this subdivision.

(c) For surface waters of the state designated for use for warmwater fish and other aquatic life, but also designated as principal migratory routes for anadromous salmonids, except for inland lakes as prescribed in R 323.1065, the dissolved oxygen shall not be lowered below 5 milligrams per liter as a minimum during periods of migration.

(3) The department may cause a comprehensive plan to be prepared to upgrade waters to the standards specified in subrule (1) of this rule taking into consideration all factors affecting dissolved oxygen in these waters and the cost effectiveness of control measures to upgrade these waters and, after notice and hearing, approve the plan. After notice and hearing, the department may amend a comprehensive plan for cause. In undertaking the comprehensive planning effort the department shall provide for and encourage participation by interested and impacted persons in the affected area. Persons directly or indirectly discharging substances which contribute towards these waters not meeting the standards specified in subrule (1) of this rule may be required after notice and order to provide necessary information to assist in the development or amendment of the comprehensive plan. Upon notice and order, permit, or other action of the department, persons directly or indirectly discharging substances which contribute toward these waters not meeting the standards specified in subrule (1) of this rule shall take the necessary actions consistent with the approved comprehensive plan to control these discharges to upgrade these waters to the standards specified in subrule (1) of this rule.

History: 1954 ACS 77, Eff. Dec. 13, 1973; 1979 AC; 1986 MR 11, Eff. Dec. 2, 1986; 2006 MR 1, Eff. Jan. 13, 2006.

R 323.1065 Dissolved oxygen; inland lakes.

Rule 65. (1) The following standards for dissolved oxygen shall apply to the lakes designated for coldwater fish in R 323.1100(4) and (6):

(a) In stratified coldwater lakes which have dissolved oxygen concentrations less than 7 milligrams per liter in the upper half of the hypolimnion, a minimum of 7 milligrams per liter dissolved oxygen shall be maintained throughout the epilimnion and upper 1/3 of the thermocline during stratification. Lakes capable of sustaining

oxygen throughout the hypolimnion shall maintain oxygen throughout the hypolimnion. At all other times, dissolved oxygen concentrations greater than 7 milligrams per liter shall be maintained.
(b) Except for lakes described in subdivision (c) of this subrule, in stratified coldwater lakes which have dissolved oxygen concentrations greater than 7 milligrams per liter in the upper half of the hypolimnion, a minimum of 7 milligrams per liter of dissolved oxygen shall be maintained in the epilimnion, thermocline, and upper half of the hypolimnion. Lakes capable of sustaining oxygen throughout the hypolimnion shall maintain oxygen throughout the hypolimnion. At all other times, dissolved oxygen concentrations greater than 7 milligrams per liter shall be maintained.
(c) In stratified coldwater lakes which have dissolved oxygen concentrations greater than 7 milligrams per liter throughout the hypolimnion, a minimum of 7 milligrams per liter shall be maintained throughout the lake.
(d) In unstratified coldwater lakes, a minimum of 7 milligrams per liter of dissolved oxygen shall be maintained throughout the lake.
(2) For all other inland lakes not specified in subrule (1) of this rule, during stratification, a minimum dissolved oxygen concentration of 5 milligrams per liter shall be maintained throughout the epilimnion. At all other times, dissolved oxygen concentrations greater than 5 milligrams per liter shall be maintained.
History: 1954 ACS 77, Eff. Dec. 13, 1973; 1979 AC; 1986 MR 11, Eff. Dec. 2, 1986; 2006 MR 1, Eff. Jan. 13, 2006.

R 323.1069 Temperature; general considerations.
Rule 69. (1) In all surface waters of the state, the points of temperature measurement normally shall be in the surface 1 meter; however, where turbulence, sinking plumes, discharge inertia or other phenomena upset the natural thermal distribution patterns of receiving waters, temperature measurements shall be required to identify the spatial characteristics of the thermal profile.
(2) Monthly maximum temperatures, based on the ninetieth percentile occurrence of natural water temperatures plus the increase allowed at the edge of the mixing zone and in part on long-term physiological needs of fish, may be exceeded for short periods when natural water temperatures exceed the ninetieth percentile occurrence. Temperature increases during these periods may be permitted by the department, but in all cases shall not be greater than the natural water temperature plus the increase allowed at the edge of the mixing zone.
(3) Natural daily and seasonal temperature fluctuations of the receiving waters shall be preserved.
History: 1954 ACS 77, Eff. Dec. 13, 1973; 1979 AC; 2006 MR 1, Eff. Jan. 13, 2006.

R 323.1070
Source: 1986 AACS.

R 323.1074
Source: 1997 AACS.

R 323.1075
Source: 1986 AACS.

R 323.1080
Source: 1997 AACS.

R 323.1082 Mixing zones.
Rule 82. (1) A mixing zone is that portion of a water body allocated by the department where a point source or venting groundwater discharge is mixed with the surface waters of the state. Exposure in mixing zones shall not result in deleterious effects to populations of aquatic life or wildlife. As a minimum restriction, the final acute value (FAV) for aquatic life shall not be exceeded when determining a wasteload allocation (WLA) for acute aquatic life protection, unless it is determined by the department that a higher level is acceptable or it can be demonstrated to the department that an acute mixing zone is acceptable consistent with subrule (7) of this rule. The mixing zone shall not prevent the passage of fish or fish food organisms in a manner that would result in adverse impacts on the immediate or future populations of the fish or fish food organisms. The area of mixing zones shall be minimized. To this end, devices for rapid mixing, dilution, and dispersion are encouraged where practicable.
A watercourse or portions of a watercourse that, without 1 or more point source discharges, would have no flow except during periods of surface runoff may be considered as a mixing zone for a point source discharge. A

mixing zone established in this manner shall not apply to pollutants of initial focus specified in 40 C.F.R. §132 (1995) unless a site-specific determination under R 323.1057(2) has been conducted that shows that the existing and expected aquatic life in the watercourse will be adequately protected in the absence of chronic aquatic life water quality values.

(2) Unless otherwise stated in this rule, not more than 25% of the receiving water design flow for lotic systems, as stated in R 323.1090(2), shall be used when determining a whole effluent toxicity limit or a wasteload allocation for a toxic substance, in the absence of, or consistent with, a total maximum daily load, unless it can be demonstrated to the department that the use of a larger volume is acceptable consistent with subrule (7) of this rule.

(3) For ammonia and substances not included in subrule (2) of this rule, the design flow for lotic systems, as stated in R 323.1090(2)(a) or (3), shall be used when determining WLAs if the provisions in subrule (1) of this rule are met, unless the department determines that a more restrictive volume is necessary.

(4) For all substances, physical mixing zone boundaries may be established and shall be determined by the department on a case-by-case basis.

(5) Mixing zones in the Great Lakes and inland lakes for the purpose of determining WLAs and WET limits shall assume no greater dilution than 1 part effluent to 10 parts receiving water, unless it can be demonstrated to the department that use of a larger volume is acceptable consistent with subrule (7) of this rule. Except for ammonia, a larger mixing zone shall not be granted if it exceeds the area where discharge-induced mixing occurs. Mixing zones established under this subrule for thermal discharges to meet the Great Lakes and inland lake requirements of R 323.1069, R 323.1070, R 323.1072, R 323.1073, and R 323.1075 shall be determined by the department on a case-by-case basis.

(6) In addition to subrules (1), (2), (4), and (5) of this rule, the following provisions are applicable to bioaccumulative chemicals of concern (BCCs) when establishing WLAs:

(a) There shall be no mixing zones available for new discharges of BCCs to the surface waters of the state.

(b) Mixing zones for BCCs may be allowed for existing discharges to the surface waters of the state through November 14, 2010, pursuant to the provisions of this rule. After this date, except as provided in subdivisions (c) and (d) of this subrule, permits shall not authorize mixing zones for existing discharges of BCCs to the surface waters of the state, and WLAs for such discharges shall be set equal to the most stringent water quality value for that BCC.

(c) The department may grant mixing zones for any existing discharge of BCCs to the surface waters of the state where it can be demonstrated, on a case-by-case basis, that failure to grant a mixing zone would preclude water conservation measures that would lead to overall load reductions in BCCs.

(d) Upon the request of an existing discharger of a BCC to the surface waters of the state, the department may grant mixing zones beyond November 14, 2010, based upon technical and economic considerations, subject to all of the following provisions:

(i) The department must determine that all of the following provisions are satisfied:

(A) The discharger is in compliance with, and will continue to implement, all applicable technology-based treatment and pretreatment requirements of the clean water act of 1972, as amended, 33 U.S.C. §§301, 302, 304, 306, 307, 401, and 402, and is in compliance with its existing NPDES WQBELs, including those based on a mixing zone.

(B) The discharger has reduced, and will continue to reduce, to the maximum extent possible, the loading of the BCC for which a mixing zone is requested, by the use of cost-effective controls or pollution-prevention alternatives that have been adequately demonstrated and are reasonably available to the discharger.

(C) The discharger has evaluated alternative means of reducing the BCC elsewhere in the watershed.

(ii) In making the determination in paragraph (i) of this subdivision, the department shall consider all of the following factors:

(A) The availability and feasibility, including cost effectiveness, of additional controls or pollution prevention measures for reducing and ultimately eliminating BCCs for the discharger, including additional controls or pollution prevention measures used by similar dischargers for reducing and ultimately eliminating BCCs.

(B) Whether the discharger or affected communities will suffer unreasonable economic effects if the mixing zone is eliminated.

(C) The extent to which the discharger will implement an ambient monitoring plan to ensure compliance with water quality values at the edge of any authorized mixing zone.

(D) Other information the department deems appropriate.

(iii) Any exceptions to the mixing zone elimination provision for existing discharges of BCCs granted pursuant

to this subdivision shall comply with all of the following provisions:
(A) Not result in any less stringent limitations than the limitations that existed on July 29, 1997.
(B) Be limited to 1 permit term unless the department makes a new determination in accordance with this subrule for each successive permit application in which a mixing zone for the BCC is sought.
(C) Not likely jeopardize the continued existence of any endangered or threatened species listed or proposed under section 4 of the endangered species act or result in the destruction or adverse modification of the species' critical habitat.
(iv) For each draft NPDES permit that allows a mixing zone for a BCC after November 14, 2010, the NPDES fact sheet shall specify relevant information used to establish the mixing zone, including the mixing provisions used in calculating the permit limits and the identity of each BCC for which a mixing zone is proposed.
(7) For purposes of establishing a mixing zone other than as specified in subrules (1), (2), and (5) of this rule, a mixing zone demonstration shall be submitted to the department for approval and all of the following provisions apply:
(a) The mixing zone demonstration shall include all of the following:
(i) A description of the amount of dilution occurring at the boundaries of the proposed mixing zone and the size, shape, and location of the area of mixing, including the manner in which diffusion and dispersion occur.
(ii) For sources discharging to the Great Lakes and inland lakes, a definition of the location at which discharge-induced mixing ceases.
(iii) Documentation of the substrate character within the mixing zone.
(iv) Confirmation that the mixing zone does not interfere with or block the passage of fish or aquatic life.
(v) Confirmation that the mixing zone would not likely jeopardize the continued existence of any endangered or threatened species listed or proposed under section 4 of the endangered species act or result in the destruction or adverse modification of the species' critical habitat.
(vi) Confirmation that the mixing zone does not extend to a public water supply source pursuant to R 323.1100(8).
(vii) Confirmation that the mixing zone would not interfere with the designated or existing uses of the receiving water or downstream waters.
(viii) Documentation of background water quality concentrations.
(ix) Confirmation that the mixing zone does not promote undesirable aquatic life or result in a dominance of nuisance species.
(x) Confirmation that, by allowing additional mixing/dilution, the following will not occur:
(A) The formation of objectionable deposits.
(B) The concentration of floating debris, oil, scum, and other matter in concentrations that form nuisances.
(C) The production of objectionable color, odor, taste, or turbidity.
(b) The mixing zone demonstration shall also address all of the following items:
(i) Whether or not adjacent mixing zones overlap.
(ii) Whether organisms would be attracted to the area of mixing as a result of the effluent character.
(iii) Whether the habitat supports endemic or naturally occurring species.
(iv) Why an increased mixing zone is necessary.
(v) Describe any pollution prevention measures that were evaluated to eliminate the need for an increased mixing zone.
(c) The mixing zone demonstration shall be based on the assumption that environmental fate or other physical, chemical, or biological factors do not affect the concentration of the toxic substance in the water column, within the proposed mixing zone, unless both of the following occur:
(i) Scientifically valid field studies or other relevant information demonstrate that degradation of the toxic substance is expected to occur during typical environmental conditions expected to be encountered.
(ii) Scientifically valid field studies or other relevant information address other factors that affect the level of toxic substances in the water column, including all of the following factors:
(A) Sediment release or resuspension.
(B) Chemical speciation.
(C) Biological and chemical transformation.
History: 1954 ACS 77, Eff. Dec. 13, 1973; 1979 AC; 1984 MR 12, Eff. Jan. 18, 1985; 1986 MR 11, Eff. Dec. 2, 1986; 1997 MR 7, Eff. July 28, 1997; 2006 MR 1, Eff. Jan. 13, 2006.

R 323.1090 Applicability of water quality standards.

Rule 90. (1) The requirements prescribed by these rules shall not apply within mixing zones, except for the requirements prescribed in R 323.1050, or as otherwise specified by these rules.
(2) Water quality standards prescribed by these rules are minimally acceptable water quality conditions and shall apply at all flows equal to or exceeding the design flows, except where the department determines that a more restrictive design flow is necessary. The design flows in lotic systems shall be as follows:
(a) Unless otherwise stated in this rule, the design flow is equal to the lowest of the 12 monthly 95% exceedance flows. The 95% exceedance flow is the flow equal to or exceeded 95% of the time for the specified month.
(b) For human health values, the design flow is equal to the harmonic mean flow.
(c) For wildlife values, the design flow is equal to the 90-day, 10-year low flow (90Q10).
(3) A maximum of 4 seasonal design flows may be granted when determining surface water effluent limitations for ammonia or substances not addressed by R 323.1057 if it is determined by the department that the use of such design flows will protect water quality and be consistent with the protection of the public health, safety, and welfare. The seasonal design flows shall be the lowest of the monthly 95% exceedance flow for the months in each season.
(4) Alternate design flows may be used for intermittent wet weather discharges as necessary to protect the designated uses of the receiving water.
History: 1954 ACS 77, Eff. Dec. 13, 1973; 1979 AC; 1984 MR 12, Eff. Jan. 18, 1985; 1997 MR 7, Eff. July 28, 1997; 2006 MR 1, Eff. Jan. 13, 2006.

R 323.1091
Source: 1997 AACS.

R 323.1092 Applicability of water quality standards to dredging or construction activities.
Rule 92. Unless the department determines, after consideration of dilution and dispersion, that such activities result in unacceptable adverse impacts on designated uses, the water quality standards prescribed by these rules shall not apply to dredging or construction activities within the surface waters of the state where such activities occur or during the periods of time when the aftereffects of dredging or construction activities degrade water quality within such waters of the state, if the dredging operations or construction activities have been authorized by the United States army corps of engineers or the department. The water quality standards shall apply, however, in nonconfined surface waters of the state utilized for the disposal of spoil from dredging operations, except within spoil disposal sites specifically defined by the United States army corps of engineers or the department.
History: 1954 ACS 77, Eff. Dec. 13, 1973; 1979 AC; 1986 MR 11, Eff. Dec. 2, 1986; 2006 MR 1, Eff. Jan. 13, 2006.

R 323.1096 Determinations of compliance with water quality standards.
Rule 96. Analysis of the surface waters of the state to determine compliance with the water quality standards prescribed by these rules shall be made pursuant to procedures outlined in 40 C.F.R. §136 (2000), which are adopted by reference in R 323.1117 or other methods prescribed or approved by the department.
History: 1954 ACS 77, Eff. Dec. 13, 1973; 1979 AC; 1986 MR 11, Eff. Dec. 2, 1986; 2006 MR 1, Eff. Jan. 13, 2006.

R 323.1097 Materials applications not subject to standards.
Rule 97. The application of materials for water resource management projects pursuant to state statutory provisions is not subject to the standards prescribed by these rules, but all projects shall be reviewed and approved by the department before application.
History: 1954 ACS 77, Eff. Dec. 13, 1973; 1979 AC; 1986 MR 11, Eff. Dec. 2, 1986; 2006 MR 1, Eff. Jan. 13, 2006.

R 323.1098
Source: 1998-2000 AACS.

R 323.1099
Source: 1997 AACS.

R 323.1100 Designated uses.

Rule 100. (1) At a minimum, all surface waters of the state are designated and protected for all of the following uses:

(a) Agriculture.

(b) Navigation.

(c) Industrial water supply.

(d) Warmwater fishery.

(e) Other indigenous aquatic life and wildlife.

(f) Partial body contact recreation.

(g) Fish consumption.

(2) All surface waters of the state are designated and protected for total body contact recreation from May 1 to October 31 in accordance with the provisions of R 323.1062. Total body contact recreation immediately downstream of wastewater discharges, areas of significant urban runoff, combined sewer overflows, and areas influenced by certain agricultural practices is contrary to prudent public health and safety practices, even though water quality standards may be met.

(3) If designated uses are interrupted due to uncontrollable circumstances during or following flood conditions, accidental spillages, or other emergencies, then notice shall be served upon entities affected by the interruption in accordance with procedures established by the department. Prompt corrective action shall be taken by the discharger to restore the designated uses.

(4) All inland lakes identified in the publication entitled "Coldwater Lakes of Michigan," as published in 1976 by the department of natural resources, are designated and protected for coldwater fisheries.

(5) All Great Lakes and their connecting waters, except for the entire Keweenaw waterway, including Portage lake, Houghton county, and Lake St. Clair, are designated and protected for coldwater fisheries.

(6) All lakes listed in the publication entitled "Designated Trout Lakes and Regulations," issued September 10, 1998, by the director of the department of natural resources under the authority of part 411 of 1994 PA 451, MCL 324.41101 et seq., are designated and protected for coldwater fisheries.

(7) All waters listed in the publication entitled "Designated Trout Streams for the State of Michigan," Director's Order No. DFI-101.97, by the director of the department of natural resources under the authority of section 48701(m) of 1994 PA 451, MCL 324.48701(m) are designated and protected for coldwater fisheries.

(8) All surface waters of the state that are identified in the publication "Public Water Supply Intakes in Michigan," dated December 9, 1999, are designated and protected as public water supply sources at the point of water intake and in such contiguous areas as the department may determine necessary for assured protection. In addition, all Michigan waters of the Great Lakes and connecting waters shall meet the human cancer and human noncancer values for drinking water established pursuant to R 323.1057(4). The requirement to meet the human cancer and human noncancer values for drinking water shall not apply to pollutant loadings from a tributary in an area where a tributary mixes with the Great Lake, connecting water, or a waterbody that has been designated for use as a public water supply source, unless a water intake was located in this area on April 2, 1999.

(9) Water quality of all surface waters of the state serving as migratory routes for anadromous salmonids shall be protected as necessary to assure that migration is not adversely affected.

(10) Effluent discharges to wetlands that result in water quality that is inconsistent with that prescribed by these rules may be permitted after a use attainability analysis shows that designated uses are not and cannot be attained and shows that attainable uses will be protected.

(11) After completion of a comprehensive plan developed under R 323.1064(3), upon petition by a municipality or other person, and in conformance with the requirements of 40 C.F.R. §131.10 (1995), designation of uses, which are adopted by reference in R 323.1117, the department may determine that attainment of the dissolved oxygen standards of R 323.1064(1) is not feasible and designate, by amendment to this rule, a limited warmwater fishery use subcategory of the warmwater fishery use or a limited coldwater fishery use subcategory of coldwater fishery use. For waters so designated, the dissolved oxygen standards specified in the provisions of R 323.1064(2) and all other applicable standards of these rules apply. For waters so designated, the dissolved oxygen standards specified in R 323.1064(1) do not apply. Not less than 60 days before a municipality or other person files a petition pursuant to this subrule, a petitioner shall provide written notice to the department and the clerk of the municipalities in which the affected waters are located of the petitioner's intent to file a petition.

History: 1954 ACS 77, Eff. Dec. 13, 1973; 1979 AC; 1986 MR 11, Eff. Dec. 2, 1986; 1994 MR 5, Eff. May 20, 1994; 1996 MR 7, Eff. July 25, 1996; 1997 MR 7, Eff. July 28, 1997; 1999 MR 3, Eff. Apr. 2, 1999; 2006 MR 1, Eff. Jan. 13, 2006.

R 323.1103
Source: 1997 AACS.

R 323.1105 Multiple designated uses.
Rule 105. When a particular portion of the surface waters of the state is designated for more than 1 use, the most restrictive water quality standards for 1 or more of those designated uses shall apply to that portion.
History: 1954 ACS 77, Eff. Dec. 13, 1973; 1979 AC; 2006 MR 1, Eff. Jan. 13, 2006.

R 323.1110
Source: 1997 AACS.

R 323.1115
Source: 1997 AACS.

R 323.1116 Availability of documents.
Rule 116. The following documents referenced in this part are available for inspection at, and may be obtained at no cost from, the Lansing Office of the Department of Environmental Quality, P.O. Box 30273, Lansing, Michigan 48909-7773:
(a) "Designated Trout Lakes and Regulations," September 10, 1998.
(b) "Coldwater Lakes of Michigan," August 1976.
(c) "Designated Trout Streams for the State of Michigan," Director's Order No. DFI-101.97.
(d) "Public Water Supply Intakes in Michigan," December 9, 1999.
History: 1954 ACS 77, Eff. Dec. 13, 1973; 1979 AC; 1984 MR 12, Eff. Jan. 18, 1985; 1986 MR 11, Eff. Dec. 2, 1986; 1994 MR 5, Eff. May 20, 1994; 1996 MR 7, Eff. July 25, 1996; 1997 MR 7, Eff. July 28, 1997; 1999 MR 3, Eff. Apr. 2, 1999; 2006 MR 1, Eff. Jan. 13, 2006.

R 323.1117 Adoption of standards by reference.
Rule 117. All of the following standards are adopted by reference in these rules. Copies are available for inspection at the Lansing office of the Department of Environmental Quality, may be obtained from the Department of Environmental Quality, P.O. Box 30273, Lansing, Michigan 48909-7773, at a cost as of the time of adoption of these rules of 5 cents per page and a labor rate of $20.18 per hour, or may be otherwise obtained as indicated:
(a) "Guidelines Establishing Test Procedures for Analysis of Pollutants," 40 C.F.R. §136 et seq. (2000). Copies may be obtained from the Superintendent of Documents, Government Printing Office, Washington, DC 20402, at a cost as of the time of adoption of these rules of $61.00, or via the internet at http://www.access.gpo.gov/nara.
(b) "Standards for Protection Against Radiation," 10 C.F.R. §20 et seq. (1995). Copies may be obtained from the Superintendent of Documents, Government Printing Office, Washington, DC 20402, at a cost as of the time of adoption of these rules of $61.00, or via the internet at http://www.access.gpo.gov/nara.
(c) "Designation of Uses," 40 C.F.R. §131.10 (1995). Copies may be obtained from the Superintendent of Documents, Government Printing Office, Washington, DC 20402, at a cost as of the time of adoption of these rules of $43.00, or via the internet at http://www.access.gpo.gov/nara.
(d) "Standard Guide for Conducting Bioconcentration Tests with Fishes and Saltwater Bivalve Molluscs" ASTM standard E 1022-94, 1994. Copies may be obtained from the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, Pennsylvania 19428-2959, at a cost as of the time of adoption of these rules of $45.60.
(e) "Conditions Applicable to all Permits," 40 C.F.R. §122.41(m) (1995). Copies may be obtained from the Superintendent of Documents, Government Printing Office, Washington, DC 20402, at a cost as of the time of adoption of these rules of $43.00, or via the internet at http://www.access.gpo.gov/nara.
(f) Gobas, F.A.P.C. 1993. "A Model for Predicting the Bioaccumulation of Hydrophobic Organic Chemicals in Aquatic Foodwebs: Applications to Lake Ontario," Ecological Modeling, volume 69, pages 1 to 17.

(g) Howe, R.B., K.S. Crump, and C. Van Landingham (1986), Global '86, "A Computer Program to Extrapolate Quantal Animal Toxicity Data to Low Doses," United States EPA, Research Triangle Institute, K.S. Crump and Company, Inc.
(h) "Table 6. – Pollutants of Initial Focus in the Great Lakes Water Quality Initiative," 40 C.F.R. §132 (1995). Copies may be obtained from the Superintendent of Documents, Government Printing Office, Washington, DC 20402, at a cost as of the time of adoption of these rules of $43.00, or via the internet at http://www.access.gpo.gov/nara.
(i) "Water Quality Standards Handbook, Second Edition, Section 3.7 – Site-specific Aquatic Life Criteria," EPA-823-b-94-005a, August 1994. Copies may be obtained from the National Service Center for Environmental Publications, P.O. Box 42419, Cincinnati, Ohio 45242-0419, or via the internet at http://www.epa.gov/ncepihom/index.htm , at no cost.
(j) "Recommendations for and Documentation of Biological Values for use in Risk Assessment," United States EPA, EPA/600/6-87/008, 1988.
(k) "Minimum Data Requirements," 40 C.F.R. §132, Appendix C, Item II, (1995). Copies may be obtained from the Superintendent of Documents, Government Printing Office, Washington, DC 20402, at a cost as of the time of adoption of these rules of $43.00, or via the internet at http://www.access.gpo.gov/nara.
(l) "Registry of Toxic Effects of Chemical Substances (RTECS) Comprehensive Guide to the RTECS," Publication Number 97-119, United States Department of Health and Human Services, National Institute for Occupational Safety and Health, July 1997. Copies may be obtained from the National Institute for Occupational and Institutional Health, 4676 Columbia Parkway, C13, Cincinnati, OH 45226, or via the internet at http://www.cdc.gov/niosh/97-119.html, at no cost.
(m) United States EPA (2001), "Streamlined Water-Effect Ratio Procedure for Discharges of Copper", EPA-822-R-01-005, March 2001. Copies may be obtained from the National Service Center for Environmental Publications, P.O. Box 42419, Cincinnati, Ohio 45242-0419, or via the internet at http://www.epa.gov/waterscience/criteria/copper, at no cost.
History: 1994 MR 5, Eff. May 20, 1994; 1997 MR 7, Eff. July 28, 1997; 2006 MR 1, Eff. Jan. 13, 2006.

PART 5. SPILLAGE OF OIL AND POLLUTING MATERIALS

R 323.1151
Source: 2001 AACS.

R 323.1152
Source: 2001 AACS.

R 323.1153
Source: 2001 AACS.

R 323.1154
Source: 2001 AACS.

R 323.1155
Source: 2001 AACS.

R 323.1156
Source: 2001 AACS.

R 323.1157
Source: 2001 AACS.

R 323.1158
Source: 2001 AACS.

R 323.1159
Source: 2001 AACS.

R 323.1161
Source: 2001 AACS.

R 323.1163
Source: 2001 AACS.

R 323.1164
Source: 2001 AACS.

R 323.1169
Source: 2001 AACS.

PART 6. CLEANING AGENTS AND WATER CONDITIONERS

R 323.1171
Source: 2003 AACS.

R 323.1172
Source: 2003 AACS.

R 323.1173
Source: 2003 AACS.

R 323.1174
Source: 2003 AACS.

R 323.1175
Source: 2003 AACS.

R 323.1180
Source: 2003 AACS.

R 323.1181
Source: 2003 AACS.

PART 8. WATER QUALITY-BASED EFFLUENT LIMIT DEVELOPMENT FOR TOXIC SUBSTANCES

R 323.1201
Source: 1997 AACS.

R 323.1203 Definitions; A to L.
Rule 1203. As used in this part:
(a) "Acute-chronic ratio (ACR)" means a standard measure of the acute toxicity of a material divided by an appropriate measure of the chronic toxicity of the same material under comparable conditions.
(b) "Acute toxicity" means an adverse effect that results from an acute exposure which occurs within any short observation period and which usually does not constitute a substantial portion of the life span of the organism.
(c) "Acute toxic unit (TU_a)" means $100/LC_{50}$ where the LC_{50} is determined from a whole effluent toxicity (WET) test which produces a result that is statistically or graphically estimated to be lethal to 50% of the test organisms.
(d) "Aquatic life value" means a tier I or tier II value developed under R 323.1057(2).
(e) "Bioaccumulation equivalency factor (BEF)" means the bioaccumulation potential for the toxicologically important chlorinated dibenzo-p-dioxins and chlorinated dibenzo-p-furans relative to 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD) for use in calculating 2,3,7,8-TCDD toxicity equivalency concentrations in water as the 2,3,7,8-TCDD toxicity equivalency concentrations relate to deriving human health water quality values.
(f) "Bioaccumulation factor (BAF)" means the ratio, in liters per kilogram, of a substance's concentration in tissue of an aquatic organism to its concentration in the ambient water where both the organism and its food are exposed and the ratio does not change substantially over time.
(g) "Bioaccumulative chemical of concern (BCC)" means a chemical which, upon entering the surface waters,

by itself or as its toxic transformation product, accumulates in aquatic organisms by a human health bioaccumulation factor (BAF) of more than 1000 derived after considering metabolism and other physiochemical properties that might enhance or inhibit bioaccumulation. The human health bioaccumulation factor shall be derived according to
R 323.1057(5). Chemicals with half-lives of less than 8 weeks in the water column, sediment, and biota are not BCCs. The minimum BAF information needed to define an organic chemical as a BCC is either a field-measured BAF or a BAF derived using the biota-sediment accumulation factor (BSAF) methodology. The minimum BAF information needed to define an inorganic chemical as a BCC, including an organometal, is either a field-measured BAF or a laboratory-measured bioconcentration factor (BCF). The BCCs to which these rules apply are identified in table 5 of R 323.1057.

(h) "Bioconcentration factor (BCF)" means the ratio, in liters per kilogram, of a substance's concentration in tissue of an aquatic organism to its concentration in the ambient water in situations where the organism is exposed through the water only and the ratio does not change substantially over time.

(i) "Biota-sediment accumulation factor (BSAF)" means the ratio, in kilograms of organic carbon per kilogram of lipid, of a substance's lipid-normalized concentration in tissue of an aquatic organism to its organic carbon-normalized concentration in surface sediment in situations where the ratio does not change substantially over time, both the organism and its food are exposed, and the surface sediment is representative of average surface sediment in the vicinity of the organism.

(j) "Carcinogen" means a substance which causes an increased incidence of benign or malignant neoplasms in animals or humans or that substantially decreases the time in which neoplasms develop in animals or humans.

(k) "Chemical-specific water quality-based effluent limit" means water quality-based effluent limits that are based on an individual chemical.

(l) "Chronic toxicity" means a concurrent and delayed adverse effect that occurs only as a result of a chronic exposure.

(m) "Chronic toxic unit (TU_c)" means 100/MATC or $100/IC_{25}$, where the maximum acceptable toxicant concentration (MATC) and IC_{25} are expressed as a percent effluent in the test medium.

(n) "Clean water act" means the federal water pollution control act codified at 33 U.S.C. §1251 et seq., as amended.

(o) "Daily maximum water quality-based effluent limit" means an effluent specific water quality-based effluent limit in an NPDES permit developed to protect aquatic life from acute chemical specific or whole effluent toxicity.

(p) "Department" means the director of the Michigan department of environmental quality, or his or her designee to whom the director delegates a power or duty by written instrument.

(q) "Detection level" means the lowest concentration or amount of the target analyte that can be determined to be different from zero by a single measurement at a stated level of probability.

(r) "Discharge-induced mixing" means the mixing of a discharge and receiving water that occurs due to discharge momentum and buoyancy up to the point where mixing is controlled by ambient turbulence.

(s) "Dissolved metal" means the concentration of a metal that will pass through a 0.45-μm membrane filter.

(t) "Existing discharge" means any building, structure, facility, or installation from which there is or may be a discharge of toxic substances to the surface waters of the state that is not a new discharge.

(u) "Final acute value (FAV)" means the level of a chemical or mixture of chemicals that does not allow the mortality or other specified response of aquatic organisms to exceed 50% when exposed for 96 hours, except where a shorter time period is appropriate for certain species. The FAV shall be calculated under R 323.1057(2) if appropriate for the chemical.

(v) "Human cancer value (HCV)" means the maximum ambient water concentration of a substance at which a lifetime of exposure from either drinking the water, consuming fish from the water, and conducting water-related recreation activities or consuming fish from the water and conducting water-related recreation activities will represent a plausible upper bound risk of contracting cancer of 1 in 100,000 using the exposure assumptions and methodology specified in R 323.1057(4).

(w) "Human noncancer value (HNV)" means the maximum ambient water concentration of a substance at which adverse noncancer effects are not likely to occur in the human population from lifetime exposure through either drinking the water, consuming fish from the water, and conducting water-related recreation activities or consuming fish from the water and conducting water-related recreation activities using the exposure assumption and methodology in R 323.1057(4).

(x) "Intake toxic substance" means the amount of a toxic substance that is present in surface or groundwaters of

the state at the time the toxic substance is withdrawn from the waters by the discharger or present in the water provided to the discharger by another facility.
(y) "Intermittent wet-weather point source" means a point source discharge that occurs as a result of a rainfall or snowmelt event. An intermittent wet-weather point source includes a treated or untreated combined sewer overflow, but does not include a storm water discharge that is mixed with other industrial or commercial wastewater or an increased discharge from a municipal wastewater treatment plant due to a rainfall or snowmelt event.
(z) "IC_{25}" means the toxicant concentration that would cause a 25% reduction in a nonquantal biological measurement for the test population.
(aa) "LC_{50}" means a statistically or graphically estimated concentration that is expected to be lethal to 50% of a group of organisms under specified conditions.
(bb) "Load allocation" means the portion of a receiving water's loading capacity that is attributed to existing or future nonpoint sources, including natural background sources.
(cc) "Loading capacity" means the greatest amount of pollutant loading that a water can receive without violating water quality standards.
(dd) "Lotic" means surface waters of the state that exhibit flow.
History: 1997 MR 7, Eff. July 28, 1997; 2006 MR 1, Eff. Jan. 13, 2006.

R 323.1205 Definitions; M to Z.
Rule 1205. As used in this part:
(a) "Mass load" means a wasteload allocation specified in units of weight per time.
(b) "Maximum acceptable toxicant concentration (MATC)" means the concentration obtained by calculating the geometric mean of the lower and upper chronic limits from a chronic test. A lower chronic limit is the highest tested concentration that did not cause the occurrence of a specific adverse effect. An upper chronic limit is the lowest tested concentration which did cause the occurrence of a specific adverse effect and above which all tested concentrations caused such an occurrence.
(c) "Minimum level" means the level at which the entire analytical system must give a recognizable signal and acceptable calibration point. It is equivalent to the concentration of the lowest calibration standards, assuming that all method-specified sample weights, volumes, and cleanup procedures have been employed.
(d) "Mixing zone" means the portion of a water body in which a point source discharge or venting groundwater is mixed with the receiving water.
(e) "Monthly average water quality-based effluent limit (WQBEL)" means an effluent specific water quality-based effluent limit in a national pollutant discharge elimination system (NPDES) permit developed to protect aquatic life, human health, and wildlife from chronic chemical specific toxicity or aquatic life from chronic whole effluent toxicity.
(f) "National pollutant discharge elimination system (NPDES)" means a permit issued by the department to a discharger pursuant to sections 3106 and 3112 of 1994 PA 451, MCL 324.3106 and 324.3112.
(g) "New discharge" means any building, structure, facility, or installation from which there is or may be a discharge of toxic substances to the surface waters of the state, the construction of which commenced after July 29, 1997.
(h) "Nonpoint source" means a source of a toxic substance to the surface waters of the state other than a source defined as a point source.
(i) "Permittee" means the individual or facility that is issued an NPDES permit.
(j) "Point source" means a discharge that is released to the surface waters of the state by a discernible, confined, and discrete conveyance, including any of the following from which wastewater is or may be discharged:
(i) A pipe.
(ii) A ditch.
(iii) A channel.
(iv) A tunnel.
(v) A conduit.
(vi) A well.
(vii) A discrete fissure.
(viii) A container.
(ix) A concentrated animal feeding operation.

(x) A boat or other watercraft.
(k) "Pollution prevention" means eliminating or minimizing the initial generation of waste at the source or utilizing environmentally sound on-site and off-site reuse or recycling. Waste treatment, release, or disposal is not considered pollution prevention.
(l) "Quantification level" means the measurement of the concentration of a contaminant obtained by using a specified laboratory procedure calculated at a specified concentration above the detection level. It is considered the lowest concentration at which a particular contaminant can be quantitatively measured using a specified laboratory procedure for monitoring of the contaminant.
(m) "Raw water" means the surface waters of the state before any treatment.
(n) "Receiving water" means the surface waters of the state into which an effluent is or may be discharged.
(o) "Same body of water" means that, for purposes of evaluating intake toxic substances consistent withR 323.1211, the department will consider intake toxic substances to be from the same body of water if the department finds that the intake toxic substance would have reached the vicinity of the outfall point in the receiving water within a reasonable period had it not been removed by the permittee and there is a direct hydrological connection between the intake and the discharge points. Notwithstanding the provisions of this subdivision, an intake toxic substance shall be considered to be from the same body of water if the permittee's intake point is located on a Great Lake and the outfall point is in close proximity to the intake point and is located on a tributary of that Great Lake. In this situation, the background concentration of the toxic substance in the receiving water shall be similar to or greater than that in the intake water and a difference in any water quality characteristic between the intake and receiving water shall not result in an adverse impact on the receiving water. Groundwater sources of intake water can also be considered the same body of water if both of the following conditions are met:
(i) The groundwater vents to the same surface water body where the discharge is located.
(ii) The concentration of the intake toxic substance in the groundwater source is similar to the background groundwater concentration which exists at or regionally proximate to the groundwater source that is not attributable to any release at or regionally proximate to the source. Release shall be defined consistent with the September, 1996, revisions to section 324.20101 of 1994 PA 451, MCL 324.20101. Where a release has influenced the concentration of the toxic substance in the groundwater source, a same body of water determination shall be made by the department on a case-by-case basis. For purposes of this paragraph, the background groundwater concentration of the intake toxic substance shall be established at the time of permit issuance, reissuance, or modification based on data available to the department or data provided by the permittee from at least 1 representative location.
(p) "Surface waters of the state" means all of the following, but does not include drainage ways and ponds used solely for wastewater conveyance, treatment, or control:
(i) The Great Lakes and their connecting waters.
(ii) All inland lakes.
(iii) Rivers.
(iv) Streams.
(v) Impoundments.
(vi) Open drains.
(vii) Wetlands.
(viii) Other surface bodies of water within the confines of the state.
(q) "Tier I value" means a value for aquatic life, human health**,** or wildlife calculated under R 323.1057 using a tier I toxicity data base.
"Tier II value" means a value for aquatic life or human health calculated under

R 323.1057 using a tier II toxicity data base.

(s) "Toxicity equivalency factor (TEF)" means a reasonable estimate of the toxicity associated with a mixture of chlorinated dibenzo-p-dioxins and chlorinated dibenzo-p-furans relative to the toxicity of 2,3,7,8-tetrachlorodibenzo-p-dioxin.
(t) "Toxicity reduction evaluation (TRE)" means a site-specific study conducted in a stepwise process designed to identify the causative agents of effluent toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in effluent toxicity.
(u) "Toxic substance" means a substance, except for heat, that is present in a sufficient concentration or quantity that is or may become harmful to plant life, animal life, or designated uses. These rules apply to all of

the following toxic substances:
(i) The priority pollutant and hazardous chemicals specified in the provisions of 40 C.F.R. §122.21, Appendix D (1990), which are adopted by reference in R 323.1221.
(ii) The pollutants of initial focus specified in the provisions of 40 C.F.R. Part 132 (1995), water quality guidance for the Great Lakes system, which are adopted by reference in R 323.1221.
(iii) The pollutants specified in table 1.
(iv) Any other toxic substances that the department determines are of concern at a specific site.
(v) "Translator" means a value used to predict the ratio of total or total recoverable metal to dissolved metal in a surface water of the state that is then used to derive a total or total recoverable water quality-based effluent limit using dissolved aquatic life tier I or tier II values.
(w) "Venting groundwater" means groundwater that is entering a surface water of the state from a facility as defined in section 20101 of 1994 PA 451, MCL 324.20101.
(x) "Wasteload allocation (WLA)" means the allocation for an individual point source which is developed in accordance with R 323.1209 and which ensures that the level of water quality to be achieved by the point source complies with all applicable water quality standards.
(y) "Water quality-based effluent limit (WQBEL)" means an effluent limit developed for an NPDES permit that will ensure that the level of water quality to be achieved by the point source complies with all applicable water quality standards.
(z) "Water quality standards" means the Part 4. Water Quality Standards developed under Part 31 of 1994 PA 451, MCL 324.3101 et seq.
(aa) "Water quality value" means a tier I or tier II aquatic life or human health value or tier I wildlife value developed under R 323.1057.
(bb) "Wetland" means land characterized by the presence of water at a frequency and duration sufficient to support, and that under normal circumstances does support, wetland vegetation or aquatic life.
(cc) "Whole effluent toxicity" means the total toxic effect of an effluent measured directly with a toxicity test under R 323.1219.
(dd) "Wildlife value" means the maximum ambient water concentration of a substance at which adverse effects are not likely to result in population-level impacts to mammalian and avian wildlife populations from lifetime exposure through drinking water and aquatic food supply, using the methodology specified in R 323.1057(3).
Table 1.

1-amino-2-methylanthraquinone
1-chloro-4-phenoxybenzene
1,1,1,2-tetrachloroethane
1,2-epoxybutane
1,2,3-trichlorobenzene
1,2:3,4-diepoxybutane
1,2,3,5-tetrachlorobenzene
1,3-butadiene
1,3-propane sultone
1,4-dioxane
1,5-naphthalenediamine
2-acetylaminofluorene
2-aminoanthraquinone
2-methyl-1-nitroanthraquinone
2-naphthylamine
2-nitropropane
2,4-diaminoanisole sulfate
2,4-diaminotoluene
2,3,4,5-tetrachlorophenol
2,3,4,6-tetrachlorophenol
2,3,5,6-tetrachlorophenol
2,4,5-trichlorophenol
2,4,5-trichlorotoluene
2,4,5-trimethylaniline
3-amino-9-ethylcarbazole
3-amino-9-ethylcarbazole hydrochloride
3-(chloromethyl)pyridine hydrochloride
4-aminobiphenyl
4-chloro-m-phenylenediamine
4-chloro-o-phenylenediamine
4-dimethylaminoazobenzene
4,4'-diaminodiphenyl ether
4,4'-methylenebis (2-methylaniline)
4,4'-methylenebis(N,N-dimethyl) benzenamine
4,4'-thiodianiline
5-chloro-o-toluidine
5-nitro-o-anisidine
5-nitroacenaphthene
Abietic ccid
Acetone cyanohydrin
Actinomycin D
Aflatoxins
Aldicarb
Aminoazobenzene
Amitrole
Anilazine
Aniline hydrochloride
Antimycin A
Aramite
Azinphos-ethyl
Azinphos-methyl
Azobenzene
Barban
Bendiocarb
Benomyl
Bis(chloromethyl)ether

Bromomethane
Bromoxynil
Butylbutanol nitrosamine
Captafol
Carbophenothion
Chloramines
Chlordecone
Chlorfenvinphos
Chlorinated dibenzofurans
Chlorobenzilate
Chloromethane
Chloroprene
Clonitralid
Crotoxyphos
Cupferron
Cycasin
Cycloheximide
Cyclophosphamide
Dehydroabietic acid
Demeton
Diallate
Dibromochloropropane (DBCP)
Dichrotophos
Diethylhexyl phthalate
Diethylstilbestrol
Dihydrosafrole
Dimethoate
Dimethyl disulphide
Dimethyl sulfate
Dimethylhydrazines
Dinocap
Dinoseb
Dioxathion
Diphenyl ether
EPN
Ethyl chloride
Ethylene oxide
Ethylene thiourea
Ethyleneimine
Ethylmethanesulfonate
Fensulfothion
Fluchloralin
Furathiazole
Hexachlorocyclohexane
Hexamethylphosphoramide
Hydrazine
Hydrazobenzene
Hydrogen sulfide
Hydroquinone
Isonicotinic acid hydrazine
Kanechlor C
Ketene
Lactonitrile
Lasiocarpine
Leptophos
Malachite green

Mestranol
Methacrylonitrile
Methomyl
Methyl chloroform
Methyl hydrazine
Methylenebis(2-chloroaniline)
Methylthiouracil
Mitomycin C
Monocrotaline
Monocrotophos
Mustard gas
N-(2-hydroxyethyl) ethyleneimine
N-methyl formamide
N,N'-diethylthiourea
N-nitroso-di-N-butylamine
N-nitroso-N-ethylurea
N-nitroso-N-methylurea
N-nitrosodiethylamine
N-nitrosomethylvinylamine
N-nitrosomorpholine
N-nitrososarcosine
Neoabietic acid
Nifurthiazole
Niridazole
Nithiazide
Nitrofen
Nitrogen mustard
o-Aminoazotoluene
o-Anisidine
o-Anisidine hydrochloride
o-Phenylphenol
o-Toluidine
o-Toluidine hydrochloride
Octachlorostyrene
Oxydemetonmethyl
p-Chlorophenol
p-Cresidine
p-Nitrosodiphenylamine
Paraquat
Pentachloronitrobenzene
Phenazopyridine hydrochloride
Phenesterin
Phenobarbitol
Phenytoin sodium
Phorate
Phosazetim
Phosmet
Phosphamidon
Piperonyl sulfoxide
Polybrominated biphenyls (PBB)
Polychlorinated naphthalenes
Propyleneimine
Propylthiouracil
Rotenone
Semicarbazide
Semicarbazide hydrochloride

Silvex
Sodium fluoroacetate
Sodium-o-phenylphenol
Sulfallate
Sulfotepp
TEPP
Terbufos
Tetrachloroguaiacol
Tetrachlorvinphos
Tetranitromethane
Thioacetamide
Thiourea
Thiram
Triaryl phosphate esters
Tributyltin (and salts and esters)
Trichlorfon
Trifluralin
Trimethylphosphate
Tris(2,3-dibromopropyl)phosphate
Uracil mustard
Urethane
Vinyl bromide
Ziram
History: 1997 MR 7, Eff. July 28, 1997; 2006 MR 1, Eff. Jan. 13, 2006.

R 323.1209 Development of wasteload allocations for toxic substances.
Rule 1209**.** (1) In the absence of a total maximum daily load (TMDL) established under R 323.1207, or where consistent with a TMDL, the following procedure shall be used to calculate individual point source wasteload allocations (WLAs) for aquatic life, human health, and wildlife values consistent with the requirements of R 323.1211(2):
(a) Chronic WLAs for discharges to lotic waters shall be developed for the toxic substance as follows:
$$WLA = \frac{Zt\ (Qe + Qr) - (Qr)(Cr)}{Qe}$$
or

$$WLA = \frac{(Zd)(T)\ (Qe + Qr) - (Qr)(Cr)}{Qe}$$
Where:
Zt = water quality value developed for the toxic substance expressed as total or total recoverable.
Zd = water quality value for aquatic life expressed as dissolved metal. Values expressed as dissolved, but for which a translator (T) is not available, shall be expressed as total or total recoverable for purposes of this subdivision.
T = dissolved to total metal translator for aquatic life wasteload allocations. For the metals in table 2, T equals the given value or one derived from site-specific data. For metals not listed in table 2, T is equal to a translator derived by the department when sufficient information is available or from site-specific data.
Qe = effluent design flow, which is the annual average design flow for municipalities and maximum authorized flow for other facilities, unless it can be demonstrated to the department that an alternate design flow is appropriate.
Qr = flow of the receiving water allocated for mixing under R 323.1082. If a discharger has an intake upstream of the point of discharge, then Qr shall reflect the reduction in the design flow volume attributable to the intake.
Cr = receiving water background concentration of the toxic substance developed under R 323.1207(1)(g).
The lowest of the WLAs developed under this subdivision for the chronic aquatic life, human health, or wildlife values for each toxic substance shall be the basis for the water quality-based effluent limit (WQBEL) as specified in R 323.1211(4)(a).

Table 2.
Dissolved to total metal translators for aquatic life wasteload allocations.

Toxic Substance	Translator (T)
Cadmium	2.1
Chromium	1.5
Copper	1.5
Lead	4.5
Nickel	1.1
Zinc	2.1

(b) Chronic WLAs for discharges to the Great Lakes and inland lakes shall be developed for a toxic substance as follows:

$WLA = (Zt)(1 + Q) - (Cr)(Q)$

or

$WLA = (Zd)(T)(1 + Q) - (Cr)(Q)$

Where**:**

Zt = the lowest water quality value developed for the toxic substance expressed as total or total recoverable.

Zd = water quality value for aquatic life expressed as dissolved metal. Values expressed as dissolved, but for which a translator (T) is not available, shall be expressed as total or total recoverable for purposes of this subdivision.

T = dissolved to total translator for aquatic life wasteload allocations. For the metals in table 2, T equals the given value or one derived from site-specific data. For the metals not listed in table 2, T is equal to a translator derived by the department when sufficient information is available or from site-specific data.

Q = number of parts receiving water allocated for mixing under R 323.1082(5).

Cr = receiving water background concentration of the toxic substance developed under R 323.1207(1)(g).

The lowest of the WLAs developed under this subdivision for the chronic aquatic life, human health, or wildlife values for each toxic substance shall be the basis for the WQBEL as specified in R 323.1211(4)(a).

(2) If the receiving water background concentration (Cr) of a toxic substance exceeds the most stringent applicable water quality value for that substance, then the WLA shall be established equal to the most stringent water quality value~~s~~, unless the provisions of R 323.1211(7)(d) allow for a different approach.

(3) WLAs based upon acute aquatic life protection shall not exceed the following acute WLA, unless it can be demonstrated to the department that a higher level is acceptable under R 323.1082(1)~~.~~ **:**

$WLA = (At)$

or

$WLA = (Ad)(T)$

Where:

At = the final acute value developed for the toxic substance under R 323.1057 expressed as total or total recoverable.

Ad = final acute value for aquatic life expressed as dissolved metal underR 323.1057. Values expressed as dissolved, but for which a translator (T) is not available, shall be expressed as total or total recoverable for purposes of this subdivision.

T= dissolved to total translator for aquatic life wasteload allocations. For the metals in table 2, T equals the given value or one derived from site-specific data. For the metals not listed in table 2, T is equal to a translator derived by the department when sufficient information is available or from site-specific data.

(4) When establishing WLAs based on human health values for individual point source discharges, the potential interaction between multiple toxic substances in the effluent shall be addressed by the following provisions:

(a) If an effluent contains carcinogens for which available scientific information supports a reasonable assumption that the toxic substances produce the same type of cancer through the same mechanism of action and for which WQBELs are required pursuant to R 323.1211 on an individual basis, then the total incremental risk created by the effluent in the surface waters of the state after mixing with the allowable receiving water body volume specified in R 323.1082 shall not exceed 1×10^{-5} for individual carcinogens and 1×10^{-4} for the total effluent. This additivity provision shall be implemented on a case-by-case basis and shall be evaluated at each facility independent of other carcinogens that may be

present in the receiving water.
(b) If an effluent contains 2 or more noncarcinogens for which available scientific information supports a reasonable assumption that the toxic substances produce the same adverse effects through the same mechanisms of action and for which WQBELs are required under R 323.1211 on an individual basis, then the noncarcinogenic effects of the chemicals may be assumed additive and considered by the department when calculating WLAs protective of human health. This subdivision shall be implemented on a case-by-case basis and shall be evaluated at each facility independent of other noncarcinogens that may be present in the receiving stream.
(c) Notwithstanding the requirements in subdivisions (a) and (b) of this subrule, human health-based WLAs for the chlorinated dibenzo-p-dioxins (CDDs) and chlorinated dibenzofurans (CDFs) listed in table 2 shall be calculated using the following procedures:
(i) The human cancer value and human noncancer value for 2,3,7,8-TCDD shall be used consistent with the procedures in subrules (1) and (2) of this rule to calculate total 2,3,7,8-TCDD toxicity equivalence WLAs for effluents.
(ii) The toxicity equivalency factors (TEFs) and bioaccumulation equivalency factors (BEFs) in table ~~2~~ 3 shall be used to calculate a 2,3,7,8-TCDD toxicity equivalence concentration for an effluent when implementing the WLAs derived in paragraph (i) of this subdivision. The equation for calculating the 2,3,7,8-TCDD toxicity equivalence concentration in an effluent is as follows:

$(TEC)_{TCDD} = \Sigma(C)_x(TEF)_x(BEF)_x$

Where:
$(TEC)_{TCDD}$ = 2,3,7,8-TCDD toxicity equivalence concentration in the discharge.
$(C)_x$ = the concentration of congener x in the discharge.
$(TEF)_x$ = toxicity equivalency factor for congener x.
$(BEF)_x$ = bioaccumulation equivalency factor for congener x.

Table 3. Toxicity equivalency factors and BEFs for CDDs and CDFs.

Congener	TEF	BEF
2,3,7,8-TCDD	1.0	1.0
1,2,3,7,8-PeCDD	0.5	0.9
1,2,3,4,7,8-HxCDD	0.1	0.3
1,2,3,6,7,8-HxCDD	0.1	0.1
1,2,3,7,8,9-HxCDD	0.1	0.1
1,2,3,4,6,7,8-HpCDD	0.01	0.05
OCDD	0.001	0.01
2,3,7,8-TCDF	0.1	0.8
1,2,3,7,8-PeCDF	0.05	0.2
2,3,4,7,8-PeCDF	0.5	1.6
1,2,3,4,7,8-HxCDF	0.1	0.08
1,2,3,6,7,8-HxCDF	0.1	0.2
2,3,4,6,7,8-HxCDF	0.1	0.7
1,2,3,7,8,9-HxCDF	0.1	0.6
1,2,3,4,6,7,8-HpCDF	0.01	0.01
1,2,3,4,7,8,9-HpCDF	0.01	0.4
OCDF	0.001	0.02

History: 1997 MR 7, Eff. July 28, 1997; 2006 MR 1, Eff. Jan. 13, 2006.

R 323.1211 Reasonable potential for chemical-specific water quality-based effluent limits (WQBELs).
Rule 1211. (1) Chemical-specific water quality-based effluent limits (WQBELs) shall be incorporated into a national pollutant discharge elimination system (NPDES) permit where the department determines that a toxic substance is or may be discharged into the waters of the state at a level that has the reasonable potential to cause or contribute to an excursion above any water quality value. The determination shall be made by developing preliminary effluent limitations (PELs) and comparing the effluent limitations to the potential effluent quality (PEQ) of the discharge.
(2) PELs shall be developed for each toxic substance that the permittee reports as known or believed to be present in its discharge using the wasteload allocation (WLA) provisions specified in R 323.1207 orR 323.1209. At a minimum, PELs are required and shall be developed for the protection of aquatic life and noncancer human health effects where aquatic life values, human noncancer values, or the minimum data to calculate the aquatic life or human noncancer values are

available. If there are insufficient data to calculate aquatic life or human noncancer values, then the department shall follow the provisions in subrule (6) of this rule. PELs shall also be developed for the protection of wildlife and human health cancer effects where human cancer values, wildlife values, or the minimum data to calculate human cancer or wildlife values are available.

(3) The PEQs shall be determined by either of the following procedures:

(a) If 10 or more representative facility-specific effluent samples are available that are greater than the detection limit, then the maximum PEQ shall equal the upper ninetififth percentile of all the representative daily discharge concentrations and the average PEQ shall equal the upper ninetififth percentile of all the representative 30-day average discharge concentrations. The upper ninetififth percentile of the daily discharge concentrations and 30-day average discharge concentrations shall be calculated as follows:

$P_{95} = \exp (mu_{dn} + Z_p \, sigma_{dn})$

Where:

P_{95} = upper ninetififth percentile of n-day average discharge concentrations.

d = ratio of the number of daily discharge concentrations less than the limit of detection to the total number of discharge concentrations.

n = number of discharge concentrations used to calculate an average over a specified monitoring period (n=1 for daily concentrations and 30 for 30-day averages).

exp = base e (or approximately 2.718) raised to the power shown between the parentheses in the P95 equation.

Z_p = Z value corresponding to the upper p^{th} percentile of the standard normal distribution.

$p = (0.95\text{-}d^n)/(1\text{-}d^n)$.

$$mu_{dn} = mu_d + \frac{(sigma_d)^2 - (sigma_{dn})^2}{2} + \ln \frac{(1-d)}{(1-d^n)} =$$ estimated log mean of n-day average discharge concentrations greater than the limit of detection. (Note: $mu_{dn} = mu_d$ if n = 1).

$$(sigma_{dn})^2 = \ln \left[(1-d^n) \left(\frac{1 + \left(\frac{s}{m} \right)^2}{n(1-d)} + \frac{n-1}{n} \right) \right] =$$ estimated log variance of n-day average discharge concentrations greater than the limit of detection. (Note: $(sigma_{dn})^2 = (sigma_d)^2$ if n = 1).

$mu_d = 1n\ m - 0.5\ (sigma_d)^2$ = estimated log mean of discharge concentrations greater than the limit of detection.

$(sigma_d)^2 = 1n\ [1 + (s/m)^2]$ = estimated log from variance of discharge concentrations greater than the limit of detection.

ln = natural logarithm.

m = mean of discharge concentrations greater than the limit of detection.

s = standard deviation of discharge concentrations greater than the limit of detection.

Reasonable potential for the discharge of a toxic substance to cause or contribute to an excursion above any water quality value will be considered to exist if the average or maximum PEQ exceeds any of the chronic or acute PELs, respectively, developed in accordance with subrule (2) of this rule.

(b) If sufficient data are not available to use the process described in subdivision (a) of this subrule, then the PEQ shall be determined by identifying the total number of representative effluent samples, both detectable and nondetectable, and multiplying the maximum effluent concentration by the appropriate factor from table ~~3~~ 4 developed by assuming a 0.6 coefficient of variation. Reasonable potential for the discharge of a toxic substance to cause or contribute to an excursion above any water quality value will be considered to exist if the PEQ exceeds any of the PELs developed in accordance with subrule (2) of this rule. For purposes of this subdivision, the department shall consider other scientifically defensible approaches on a case-by-case basis which are consistent with procedure 5.B.2 of Appendix F, 40 C.F.R. Part 132 (1995), which is adopted by reference in R 323.1221, for use in determining reasonable potential. If requested by the permittee, one such approach that is acceptable to the department is the prediction level concept - specified in Gibbons, 1994, Statistical Methods for Groundwater Monitoring - Wiley, New York where representative effluent data appropriate for use with this method is provided. If the prediction level approach is proposed for use with data sets containing values both above and below the detection level, then a process to address the less than detection values, that is acceptable to the department, shall be provided by the permittee.

Table 4. Reasonable potential multiplying factors:
95% confidence level and 95% probability basis.

Number of Samples	1	2	3	4	5	6	7	8	9	
Multiplying Factor	6.2	3.8	3.0	2.6	2.3	2.1	2.0	1.9	1.8	
	10	11	12	13	14	15	16	17	18	19
	1.7	1.7	1.6	1.6	1.5	1.5	1.5	1.4	1.4	1.4
	20	30	40	50	60	70	80	90	100	
	1.4	1.2	1.1	1.0	1.0	0.9	0.9	0.9	0.9	

(4) If the analysis in subrule (3) of this rule demonstrates that the toxic substance concentration has a reasonable potential to cause or contribute to an excursion above any water quality value, then a WQBEL or WQBELs shall be established in the permit. For the purpose of an NPDES permit, a chronic or acute WLA based on a water quality value shall be equal to a WQBEL and shall be expressed using the following permit averaging periods:
(a) Chronic WLAs for the protection of aquatic life, human health, and wildlife shall be expressed as monthly average WQBELs.
(b) Acute WLAs for the protection of aquatic life shall be expressed as daily maximum WQBELs.
Monitoring frequency to evaluate compliance with WQBELs shall be established by the department on a case-by-case basis.
(5) Monthly average WQBELs shall be expressed as both a concentration value and a corresponding mass load. The mass and concentration limits shall be calculated using the same facility design flows. Appropriate adjustments may be made to address facilities that receive wet-weather flows. Daily maximum WQBELs shall be expressed as both a concentration value and a corresponding mass load for those substances identified in R 323.1205(u)(ii) and other toxic substances as appropriate.
(6) For each toxic substance which a permittee reports as known or believed to be present in its discharge, and for which data sufficient to calculate tier II values for noncancer human health and aquatic life do not exist, all of the following provisions apply:
(a) The department shall use all available, relevant toxicity information to estimate ambient screening values for the toxic substance that will protect humans from noncancer health effects and aquatic life from acute and chronic effects.
(b) Using the provisions specified in R 323.1209, the department shall develop PELs based on the estimated ambient screening value and compare the PELs with the PEQ. If the PEQ exceeds any of the PELs, then the department shall generate, or require the permittee to generate, the minimum data necessary to derive tier II values for noncancer human health and aquatic life.
(c) The data generated in accordance with subdivision (b) of this subrule shall be used to calculate water quality values. The values shall be used in calculating the PELs pursuant to subrule (2) of this rule for the purpose of determining whether a WQBEL must be included in the permit. If the department finds that the PEQ exceeds the PEL, then a WQBEL for the toxic substance shall be established in the permit consistent with R 323.1211.
(7) All of the following conditions apply when considering intake toxic substances in establishing limitations in NPDES permits:
(a) The department may determine that there is no reasonable potential for the discharge of an identified intake toxic substance to cause or contribute to an excursion above any water quality value if a discharger demonstrates, to the satisfaction of the department, or the department determines, all of the following:
(i) The facility withdraws 100% of the intake water containing the toxic substance from the same body of water into which the discharge is made.
(ii) The facility does not contribute a measurable increased mass of the identified intake toxic substance to its wastewater.
(iii) The facility does not alter the identified intake toxic substance chemically or physically in a manner that would cause adverse water quality impacts to occur that would not occur if the toxic substances were left in-stream.
(iv) The facility does not increase the identified intake toxic substance concentration, as defined by the department, at the edge of the mixing zone or if a mixing zone is not allowed at the point of discharge, as compared to the toxic substance concentration in the intake water, unless the increased concentration does not cause or contribute to an excursion above an applicable water quality standard.
(v) The timing and location of the discharge would not cause adverse water quality impacts to occur that would not occur if the identified intake toxic substance were left in-stream.

(b) If there is a finding under subdivision (a) of this subrule that a toxic substance in the discharge does not have the reasonable potential to cause or contribute to an excursion above a water quality value, then a WQBEL is unnecessary and the permit may require monitoring necessary to demonstrate that the conditions in subdivision (a) of this subrule are maintained during the permit term. Unique situations for commingled waste streams at facilities will be addressed on a case-by-case basis.
(c) Absent a finding under subdivision (a) of this subrule, the department shall use the procedures described in subrules (2) through (5) of this rule to determine whether a discharge has the reasonable potential to cause or contribute to an excursion above any water quality value.
(d) If the background receiving water concentration of the intake toxic substance of concern exceeds the most stringent applicable water quality value for that toxic substance, then all of the following provisions apply:
(i) If the facility meets the conditions in subdivision (a)(i) and (iii) to (v) of this subrule, then a no net addition limit may be established for the toxic substance of concern at a mass and concentration that are no greater than the mass and concentration of the toxic substance identified in the facility's intake water. In determining whether there has been an addition, recognized statistical concepts shall be considered. For toxic substances contained in the intake water provided by a water system, the concentration of the intake toxic substance shall be determined at the point where the raw water is removed from the same body of water, except that it shall be the point where the water enters the water supplier's distribution system where the water treatment system removes any of the identified toxic substances from the raw water supply. Mass shall be determined by multiplying the concentration of the toxic substance by the volume of the facility's intake flow received from the water system. Following establishment of a TMDL developed under R 323.1207 for the water body segment encompassing the facility, any use of no net addition limits shall be consistent with the TMDL.

Note: The Water Quality Guidance for the Great Lakes System, 40 C.F.R. Part 132 (1995), indicates that a permit may not authorize no net addition limits that are effective after March 23, 2007. The preamble to 40 C.F.R. Part 132 indicates that the environmental protection agency (EPA) will revisit this requirement by March 23, 2002, to consider possible extensions. After the redetermination by EPA, the department will consider modifying these rules to incorporate a phaseout date for no net addition limits, if still necessary.
(ii) If the intake toxic substance in a facility's discharge originates from a water that is not the same body of water as the receiving water, then WQBELs shall be established based upon the most stringent water quality value for that toxic substance.
(iii) If a facility discharges an intake toxic substance that originates in part from the same body of water, and in part from a different body of water, then the department may apply the conditions of paragraphs (i) and (ii) of this subdivision to derive an effluent limitation reflecting the flow-weighted average of each source of the toxic substance.
History: 1997 MR 7, Eff. July 28, 1997; 2006 MR 1, Eff. Jan. 13, 2006.

R 323.1213 WQBELs less than quantification level.
Rule 1213**.** (1) If a water quality-based effluent limit (WQBEL) for a toxic substance is calculated to be less than the quantification level, then all of the following provisions apply:
(a) The department shall designate, in the national pollutant discharge elimination system (NPDES) permit, the WQBEL as calculated.
(b) The permit shall state, for the purpose of compliance assessment, the analytical method to be used to monitor the amount of toxic substance in the effluent and the quantification level. The analytical method specified shall be the most sensitive, applicable, analytical method specified in or approved under the pollutant testing regulations set forth in 40 C.F.R. §136 (2000), which are adopted by reference in R 323.1221, or other appropriate method that provides confirmation and verification acceptable to the department if one is not available under40 C.F.R. §136 (2000). The permit shall also state that if an effluent sample is less than the quantification level, then the permittee shall be considered in compliance for the period that the sample represents if the pollutant minimization program (PMP) described in subdivision (d) of this subrule is being fully performed.
(c) The quantification level shall be the minimum level (ML) specified in, or approved under, 40 C.F.R. §136 (2000), which are adopted by reference in R 323.1221, for the method for that toxic substance. If such ML does not exists, or if the method is not specified or approved under 40 C.F.R. §136 (2000), then the quantification level shall be the lowest quantifiable level practicable as established by procedures approved by the department. When establishing a quantification level, the department shall consider the achievability of the value by competent commercial laboratories. The permittee shall be given the opportunity to demonstrate that a higher quantification level is appropriate because of sample matrix interference.
(d) The permit shall contain a special condition requiring the permittee to develop and conduct a PMP for each toxic

substance with a WQBEL below the quantification level, unless the permittee can demonstrate to the department that an alternate technique is available and will be used to assess compliance with the WQBEL. The goal of the PMP shall be to maintain the effluent concentration of the toxic substance at or below the WQBEL. The department shall consider cost-effectiveness during the development and implementation of a PMP. The permit shall require the submittal of a PMP by the permittee that describes the control strategy designed to proceed toward achievement of the goal and shall include all of the following:

(i) An annual review and semiannual monitoring of potential sources of the toxic substance.

(ii) Quarterly monitoring for the toxic substance in the influent to the wastewater treatment system.

(iii) A commitment by the permittee that reasonable cost-effective control measures will be implemented when sources of the toxic substance are discovered. Factors to be considered shall include all of the following:

(A) Significance of sources.

(B) Economic considerations.

(C) Technical and treatability considerations.

(iv) An annual status report. The report shall be sent to the department and shall include all of the following:

(A) All minimization program monitoring results for the previous year.

(B) A list of potential sources of the toxic substance.

(C) A summary of all actions taken to reduce or eliminate the identified sources of the toxic substance.

The requirements of paragraphs (i) to (iv) of this subdivision may be modified by the department on a case-by-case basis.

(e) The permit may contain a special condition requiring fish tissue monitoring or other biouptake sampling, or both, or facility sludge monitoring to assess the progress of the PMP.

(f) The permit shall contain a reopener clause indicating that any information generated as a result of the PMP described in subdivision (d) of this subrule may be used to support a request for subsequent permit modification, including revision or removal of the PMP requirement.

(g) The quantification level specified in a NPDES permit pursuant to this rule shall remain in effect until the permit is modified or reissued. If the quantification level is reduced through a permit modification or reissuance, then the permittee may be eligible for a compliance schedule under R 323.1217 and a variance under R 323.1103.

History: 1997 MR 7, Eff. July 28, 1997; 2006 MR 1, Eff. Jan. 13, 2006.

R 323.1217 Compliance schedules.

Rule 1217. (1) If a permit issued to a new discharger contains a water quality-based effluent limitation (WQBEL) for a toxic substance, then the permittee shall comply with the limitation upon commencement of the discharge. Compliance schedules may be granted for new or more stringent WQBELs contained in a modification to the permit or subsequently issued permits.

(2) Any existing permit that is reissued or modified to contain a new or more restrictive WQBEL for a toxic substance or a lower quantification level established under R 323.1213 may allow a reasonable period of time, up to 5 years from the date of permit issuance or modification, for the permittee to comply with the new or more restrictive WQBEL or lower quantification level. When a compliance schedule goes beyond the term of a permit, an interim permit limit shall become effective on or before the permit expiration date.

(3) If a permit establishes a schedule of compliance under subrule (2) of this rule that exceeds 1 year from the date of permit issuance or modification, then the schedule shall set forth interim requirements and dates for achievement of the requirements, as appropriate.

(4) If a WQBEL for a toxic substance based upon a tier II value derived under R 323.1057 is included in a reissued or modified permit for an existing discharger, then the permit shall provide a reasonable period of time, up to 2 years, in which to provide additional data necessary to develop a tier I value or to modify the tier II value. Information submitted to modify the tier II value may also include site-specific data and any such site-specific modifications shall be calculated according to the site-specific modification requirements of R 323.1057. The permit shall require compliance with the tier II limitation within a reasonable period of time, which shall not be more than 5 years after permit issuance or modification, and shall contain a reopener clause.

(5) The reopener clause specified in subrule (4) of this rule shall authorize permit modifications if additional data have been provided by the permittee or a third party during the time allowed to provide the data and if the permittee or a third party demonstrates that a revised WQBEL for a toxic substance is appropriate. The revised WQBEL shall be incorporated through a permit modification and a reasonable time period, up to 5 years from the date of modification, shall be allowed for compliance. If incorporated before the compliance date of the original tier II limitation, any such revised WQBEL shall not be considered less stringent for purposes of the antibacksliding provisions of section 402(o) of the clean water act (CWA).

(6) If the specified studies have been completed and do not demonstrate that a revised WQBEL is appropriate, then the

department shall provide a reasonable additional period of time, not to exceed 5 years, to achieve compliance with the original WQBEL.
(7) If future studies other than those conducted under subrule (4) of this rule result in a water quality value being changed to a less stringent value, after the effective date of a WQBEL for that substance, the existing WQBEL may be revised to be less stringent if 1 of the following provisions is met:
(a) The less stringent WQBEL complies with sections 402(o)(2) and (3) of the clean water act.
(b) The less stringent WQBEL complies with water quality standards or is consistent with a department-approved total maximum daily load in nonattainment waters.
(c) The less stringent WQBEL complies with R 323.1098 in attained waters.
History: 1997 MR 7, Eff. July 28, 1997; 2006 MR 1, Eff. Jan. 13, 2006.

R 323.1219 Whole effluent toxicity.
Rule 1219**.** (1) For the purpose of evaluating the need for whole effluent toxicity (WET) limits or conditions in point source discharges, the narrative WET standard specified in
R 323.1057(6) shall be interpreted as follows:
(a) An effluent shall not exceed 1.0 acute toxic unit (TU_a), unless a higher level is acceptable consistent with R 323.1082(1).
(b) An effluent shall not cause or contribute to an exceedance of 1.0 chronic toxic unit (TU_c) in the surface waters of the state outside of any department-approved mixing zone.
(2) If the department determines under subrule (4) of this rule that the WET of an effluent is or may be discharged at a level that will cause or contribute to an excursion above the narrative WET standard specified in R 323.1057(6), then the department shall implement all of the following provisions:
(a) Establish a WET limitation or limitations consistent with subrule (5) of this rule, except as provided in subdivision (d) of this subrule, to assure both of the following:
(i) Attainment of the acute WET provisions of subrule (1)(a) of this rule.
(ii) Attainment of the chronic WET provisions of subrule (1)(b) of this rule.
(b) Specify, in the national pollutant discharge elimination system (NPDES) permit for existing dischargers, on a case-by-case basis, a requirement to perform a toxicity reduction evaluation if representative toxicity data indicate persistent exceedance of the WET limitation.
(c) Allow, with respect to any WET limitation established under subdivision (a) of this subrule, an appropriate schedule of compliance consistent with R 323.1217.
(d) Decide, on a case-by-case basis, if a WET limitation is not necessary if the department determines that chemical-specific effluent limits are sufficient to ensure compliance with any of the conditions specified in subrule (1) of this rule.
(3) If the department has insufficient information to determine, under subrule (4) of this rule, whether the WET of an effluent will be discharged at a level that will cause or contribute to an excursion above the narrative WET standard specified in R 323.1057(6), then both of the following may be included in the permit:
(a) WET testing requirements to generate the data needed to adequately characterize the toxicity of the effluent to aquatic life and any toxicity reduction requirements needed to meet the requirement of subrule (1) of this rule.
(b) A permit reopener clause to establish WET limits if any toxicity testing data required under subdivision (a) of this subrule indicate that the WET of an effluent is discharged at levels that will cause or contribute to an excursion above any of the conditions specified in subrule (1) of this rule.
(4) The department shall take into account the factors described in the permit condition regulations set forth in 40 C.F.R. §122.44(d)(1)(ii), which are adopted by reference in
R 323.1221, and use representative data to evaluate the WET of an effluent. All of the following provisions for evaluating the reasonable potential of an effluent to exceed the requirements ofR 323.1057(6) shall be applied:
(a) The toxicity of the effluent shall be characterized consistent with all of the following provisions:
(i) The results of acute toxicity tests collected within the same day for each species shall be averaged to represent 1 daily value. The maximum of all representative daily values for the most sensitive species tested shall be used for acute reasonable potential determinations.
(ii) The results of chronic toxicity tests collected within the same calendar month for each species shall be averaged to represent 1 monthly value. The maximum of all representative monthly values for the most sensitive species tested shall be used for chronic reasonable potential determinations.
(iii) If data exist for either acute WET or chronic WET, but not for both endpoints, then toxicity values for missing endpoints may be estimated using a default acute-chronic ratio (ACR) of 10.
(iv) For purposes of deriving the daily acute and monthly chronic values in paragraphs (i) and (ii) of this subdivision,

toxicity tests that do not yield quantifiable results (e.g. > = 1.0 TU_A or TU_C) shall be assigned a value of zero.
(b) The WET of an effluent is or may be discharged at a level that will cause or contribute to an excursion above the acute narrative standard specified in R 323.1057(6) when:
(TU_A effluent)(MF) > acute PEL
Where:
"TU_A effluent" is the maximum of the daily values determined pursuant to subdivision (a)(i) of this subrule.
"MF" is the multiplying factor determined using the acute toxicity test results for the most sensitive species as specified in subdivision (a)(i) of this subrule. If none of the acute toxicity tests yield quantifiable results, then the MF shall be 1. Where there is at least 1 but fewer than 10 acute toxicity tests with quantifiable results, the multiplying factor taken from table 5 shall be based on a coefficient of variation (CV) of 0.6. Where there are 10 or more acute toxicity tests with quantifiable results, the multiplying factor taken from table 5 shall be based on a CV calculated as the standard deviation of the acute toxicity test results divided by the arithmetic mean of those test results. For the purpose of selecting a MF from table 5, "n" shall equal the total number of quantifiable and nonquantifiable acute toxicity test results. For the purpose of developing a calculated CV, acute toxicity tests that do not yield quantifiable results shall equal 1.0 TUa. If the calculated CV is $\leq$0.05, then the MF shall be 1.
"Acute PEL" is the preliminary acute wet limitation derived for the facility under subrule (5)(c) of this rule.
(c) The WET of an effluent is or may be discharged at a level that will cause or contribute to an excursion above the chronic narrative standard specified in R 323.1057(6) when:
(TU_C effluent)(MF) > chronic PEL
Where:
"TU_C effluent" is the maximum of the monthly values determined pursuant to subdivision (a)(ii) of this subrule.
"MF" is the multiplying factor determined using the chronic toxicity test results for the most sensitive species as specified in subdivision (a)(ii) of this subrule. If none of the chronic toxicity tests yield quantifiable results, then the MF shall be 1. Where there is at least 1 but fewer than 10 chronic toxicity tests with quantifiable results, the multiplying factor taken from table 5 shall be based on a coefficient of variation (CV) of 0.6. Where there are 10 or more chronic toxicity tests with quantifiable results, the multiplying factor taken from table 5 shall be based on a CV calculated as the standard deviation of the chronic toxicity test results divided by the arithmetic mean of those test results. For the purpose of selecting a MF from table 5, "n" shall equal the total number of quantifiable and nonquantifiable chronic toxicity test results. For the purpose of developing a calculated CV, chronic toxicity tests that do not yield quantifiable results shall equal 1.0 TUc. If the calculated CV is $\leq$0.05, then the MF shall be 1.
"Chronic PEL" is the preliminary chronic wet limitation derived for the facility under subrule (5)(a) or (b) of this rule.
(d) The WET of a new discharge shall be evaluated on a case-by-case basis considering all information available on the potential toxicity of the proposed discharge.
(5) WET limitations shall be developed using all of the following provisions:
(a) Chronic WET limitations for discharges to lotic waters shall be developed as follows:

$$\text{WET limit} = \frac{W\,(Qe + Qr)}{Qe}$$

Where:
W = the condition specified in subrule (1)(b) of this rule.
Qe = effluent design flow, which is the annual average design flow for municipalities and maximum authorized flow for other facilities, unless it can be demonstrated to the department that an alternate design flow is appropriate.
Qr = flow of the receiving water allocated for mixing under R 323.1082. If a discharger has an intake upstream of the point of discharge, then Qr shall reflect the reduction in design flow attributable to the intake.
(b) Chronic WET limitations for discharges to the Great Lakes and inland lakes shall be developed as follows:
WET limit = (W)(Q + 1)
Where:
W = the condition specified in subrule (1)(b) of this rule.
Q = the number of parts receiving water allowed for mixing under R 323.1082(5).
(c) Acute WET limitations shall not exceed the condition specified in subrule (1)(a) of this rule.
(d) WET limitations for facilities with overlapping mixing zones shall be evaluated on a case-by-case basis.
(e) For purposes of an NPDES permit, WET limitations shall be expressed as follows:
(i) An acute WET limitation shall be applied as a daily maximum and expressed in TU_a.
(ii) A chronic WET limitation shall be applied as a monthly average and expressed in TU_c.
(6) Monitoring frequency to evaluate compliance with WET limitations shall be established by the department on a case-by-case basis. Concerns with the effects of temperature and pH on ammonia toxicity under laboratory conditions

during cold weather months will be considered in establishing monitoring frequency.
(7) All WET tests performed to implement or ascertain compliance with this rule shall be consistent with methods established in 40 C.F.R. Part 136 (2000), which are adopted by reference in R 323.1221. Methods approved by the department shall be used when appropriate WET methods are not specified in 40 C.F.R. Part 136 (2000).

Table 4 5. Reasonable potential multiplying factors: 95% confidence level and 95% probability basis.

N	Coefficient of Variation																			
	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
1	-	-	-	-	-	6.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	3.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	2.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	2.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	2.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	1.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	1.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	1.1	1.2	1.3	1.5	1.6	1.7	1.9	2.0	2.2	2.3	2.4	2.6	2.7	2.8	3.0	3.1	3.2	3.3	3.4	3.6
11	1.1	1.2	1.3	1.4	1.6	1.7	1.8	1.9	2.1	2.2	2.3	2.4	2.5	2.7	2.8	2.9	3.0	3.1	3.2	3.3
12	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.0
13	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.5	2.6	2.7	2.8	2.9
14	1.1	1.2	1.3	1.4	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.3	2.4	2.5	2.6	2.6	2.7
15	1.1	1.2	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.8	1.9	2.0	2.1	2.2	2.2	2.3	2.4	2.4	2.5	2.5
16	1.1	1.1	1.2	1.3	1.4	1.5	1.6	1.6	1.7	1.8	1.9	1.9	2.0	2.1	2.1	2.2	2.3	2.3	2.4	2.4
17	1.1	1.1	1.2	1.3	1.4	1.4	1.5	1.6	1.7	1.7	1.8	1.9	1.9	2.0	2.0	2.1	2.2	2.2	2.3	2.3
18	1.1	1.1	1.2	1.3	1.3	1.4	1.5	1.6	1.6	1.7	1.7	1.8	1.9	1.9	2.0	2.0	2.1	2.1	2.2	2.2
19	1.1	1.1	1.2	1.3	1.3	1.4	1.5	1.5	1.6	1.6	1.7	1.8	1.8	1.9	1.9	2.0	2.0	2.0	2.1	2.1
20	1.1	1.1	1.2	1.2	1.3	1.4	1.4	1.5	1.5	1.6	1.6	1.7	1.7	1.8	1.8	1.9	1.9	2.0	2.0	2.0
30	1.0	1.1	1.1	1.1	1.2	1.2	1.2	1.3	1.3	1.3	1.3	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.5
40	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.3
50	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
60	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
70	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
80	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8
90	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
100	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7

History: 1997 MR 7, Eff. July 28, 1997; 2006 MR 1, Eff. Jan. 13, 2006.

R 323.1221 Adoption of standards by reference.
Rule 1221. All of the following standards are adopted by reference in these rules, are available for inspection at the Lansing Office of the Department of Environmental Quality, and may be obtained as indicated:
(a) "EPA Priority Pollutants and Hazardous Substances," 40 C.F.R. §122.21, Appendix D (2000). Copies may be obtained from the Department of Environmental Quality, 525 West Allegan Street, Lansing, Michigan 48933, at a cost as of the time of adoption of these rules of 5 cents per page and a labor rate of $20.18 per hour, or from the Superintendent of Documents, Government Printing Office, Washington, DC 20402, at a cost as of the time of adoption of these rules of $43.00, or via the internet at http://www.access.gpo.gov/nara.
(b) "Table 6. Pollutants of Initial Focus in the Great Lakes Water Quality Initiative," 40 C.F.R. §132 (1995). Copies may be obtained from the Department of Environmental Quality, 525 West Allegan Street, Lansing, Michigan 48933, at a cost as of the time of adoption of these rules of 5 cents per page and a labor rate of $20.18 per hour, or from the Superintendent of Documents, Government Printing Office, Washington, DC 20402, at a cost as of the time of adoption of these rules of $43.00, or via the internet at http://www.access.gpo.gov/nara.
(c) "Total maximum daily loads (TMDL) and individual water quality-based effluent limitations," 40 C.F.R §130.7

(2000). Copies may be obtained from the Department of Environmental Quality, 525 West Allegan Street, Lansing, Michigan 48933, at a cost as of the time of adoption of these rules of 5 cents per page and a labor rate of $19.78 per hour, or from the Superintendent of Documents, Government Printing Office, Washington, DC 20402, at a cost as of the time of adoption of these rules of $43.00, or via the internet at http://www.access.gpo.gov/nara.

(d) "Appendix F to Part 132 - Great Lakes Water Quality Initiative Implementation Procedures, Procedure 5.B.2," 40 C.F.R. §132 (1995). Copies may be obtained from the Department of Environmental Quality, 525 West Allegan Street, Lansing, Michigan 48933, at a cost as of the time of adoption of these rules of 5 cents per page and a labor rate of $20.18 per hour, or from the Superintendent of Documents, Government Printing Office, Washington, DC 20402, at a cost as of the time of adoption of these rules of $43.00, or via the internet at http://www.access.gpo.gov/nara.

(e) "Guidelines Establishing Test Procedures for Analysis of Pollutants," 40 C.F.R. §136 et seq. (2000). Copies may be obtained from the Department of Environmental Quality, 525 West Allegan Street, Lansing, Michigan 48933, at a cost as of the time of adoption of these rules of 5 cents per page and a labor rate of $20.18 per hour, or from the Superintendent of Documents, Government Printing Office, Washington, DC 20402, at a cost as of the time of adoption of these rules of $61.00, or via the internet at http://www.access.gpo.gov/nara.

(f) "Establishing limitations, standards, and other permit conditions," 40 C.F.R §122.44(d)(1)(ii) (2000). Copies may be obtained from the Department of Environmental Quality, 525 West Allegan Street, Lansing, Michigan 48933, at a cost as of the time of adoption of these rules of 5 cents per page and a labor rate of $20.18 per hour, or from the Superintendent of Documents, Government Printing Office, Washington, DC 20402, at a cost as of the time of adoption of these rules of $43.00, or via the internet at http://www.access.gpo.gov/nara.

History: 1997 MR 7, Eff. July 28, 1997; 2006 MR 1, Eff. Jan. 13, 2006.

PART 9. WASTEWATER REPORTING

R 323.1231
Source: 1997 AACS.

R 323.1232
Source: 1997 AACS.

R 323.1233
Source: 1997 AACS.

R 323.1234
Source: 1997 AACS.

R 323.1235
Source: 1997 AACS.

R 323.1236
Source: 1997 AACS.

R 323.1237
Source: 1997 AACS.

R 323.1238
Source: 1997 AACS.

R 323.1239
Source: 1997 AACS.

R 323.1240
Source: 1997 AACS.

R 323.1241
Source: 1997 AACS.

R 323.1242
Source: 1997 AACS.

PART 11. CONSTRUCTION GRANTS FOR WASTEWATER TREATMENT WORKS

R 323.1271
Source: 1998-2000 AACS.

R 323.1272
Source: 1998-2000 AACS.

R 323.1273
Source: 1998-2000 AACS.

R 323.1274
Source: 1998-2000 AACS.

R 323.1275
Source: 1998-2000 AACS.

R 323.1276
Source: 1998-2000 AACS.

R 323.1277
Source: 1998-2000 AACS.

R 323.1278
Source: 1998-2000 AACS.

R 323.1279
Source: 1998-2000 AACS.

R 323.1280
Source: 1998-2000 AACS.

R 323.1281
Source: 1998-2000 AACS.

R 323.1282
Source: 1998-2000 AACS.

R 323.1283
Source: 1998-2000 AACS.

R 323.1284
Source: 1998-2000 AACS.

R 323.1285
Source: 1998-2000 AACS.

R 323.1286
Source: 1998-2000 AACS.

R 323.1287
Source: 1998-2000 AACS.

R 323.1288
Source: 1998-2000 AACS.

PART 13. FLOODPLAINS AND FLOODWAYS

R 323.1311
Source: 1996 AACS.

R 323.1312
Source: 1996 AACS.

R 323.1313
Source: 1984 AACS.

R 323.1314
Source: 1998-2000 AACS.

R 323.1315
Source: 1998-2000 AACS.

R 323.1316
Source: 1996 AACS.

R 323.1329
Source: 1996 AACS.

PART 17. SOIL EROSION AND SEDIMENTATION CONTROL

R 323.1701
Source: 1998-2000 AACS.

R 323.1702
Source: 1998-2000 AACS.

R 323.1703
Source: 1998-2000 AACS.

R 323.1704
Source: 1998-2000 AACS.

R 323.1705
Source: 1998-2000 AACS.

R 323.1706
Source: 1998-2000 AACS.

R 323.1707
Source: 1998-2000 AACS.

R 323.1708
Source: 1998-2000 AACS.

R 323.1709
Source: 1998-2000 AACS.

R 323.1710
Source: 1998-2000 AACS.

R 323.1711

Source: 1998-2000 AACS.

R 323.1712
Source: 1998-2000 AACS.

R 323.1713
Source: 1998-2000 AACS.

R 323.1714
Source: 1998-2000 AACS.

PART 21. WASTEWATER DISCHARGE PERMITS

R 323.2101
Source: 2003 AACS.

R 323.2102
Source: 2005 AACS.

R 323.2103 Definitions; G to O.
Rule 2103.As used in this part:
(a)"General permit" means a national permit issued authorizing a category of similar discharges.
(b)"Guidelines**,**" unless otherwise noted, means the federal guidelines promulgated by the USEPA entitled "Part 124 - Procedures for Decisionmaking," 40 C.F.R. §124 (2004).
(c)"Illicit connection" means a physical connection to a separate storm sewer that primarily conveys non-storm water discharges other than uncontaminated groundwater into the storm sewer; or a physical connection not authorized or permitted by the local authority, where a local authority requires authorization or a permit for physical connections.
(d)"Illicit discharge" means any discharge to, or seepage into, a separate storm sewer that is not composed entirely of storm water or uncontaminated groundwater.Illicit discharges include non-storm water discharges through pipes or other physical connections; dumping of motor vehicle fluids, household hazardous wastes, domestic animal wastes, or litter; collection and intentional dumping of grass clippings or leaf litter; or unauthorized discharges of sewage, industrial waste, restaurant wastes, or any other non-storm water waste directly into a separate storm sewer.
(e)"Industry" means a private person, corporation, firm, plant, or establishment that directly or indirectly discharges waste or wastewater into the waters of the state.
(f)"Land application area" specifically for CAFOs means land under the control of an AFO owner or operator, whether it is owned, rented, leased, or subject to an access agreement to which production area waste or CAFO process wastewater is or may be applied.Land application area includes land not owned by the AFO owner or operator but the AFO owner or operator has control of the land application of production area waste or CAFO process wastewater.
(g)"Large CAFO" is an AFO that stables or confines as many as or more than the numbers of animals specified in any of the following categories:
(i)700 mature dairy cows, whether milked or dry.
(ii)1,000 veal calves.
(iii)1,000 cattle other than mature dairy cows or veal calves.Cattle includes heifers, steers, bulls, and cow/calf pairs.
(iv)2,500 swine each weighing 55 pounds or more.
(v)10,000 swine each weighing less than 55 pounds.
(vi)500 horses.
(vii)10,000 sheep or lambs.
(viii)55,000 turkeys.
(ix)30,000 laying hens or broilers, if the AFO uses a liquid manure handling system.
(x)125,000 chickens (other than laying hens), if the AFO uses other than a liquid manure handling system.
(xi)82,000 laying hens, if the AFO uses other than a liquid manure handling system.
(xii)30,000 ducks, if the AFO uses other than a liquid manure handling system.
(xiii)5,000 ducks, if the AFO uses a liquid manure handling system.
(h)"Local limit" means a specific prohibition or limit on discharges of pollutants or pollutant parameters by a nondomestic source to a POTW that are set by a POTW in accordance with an approved pretreatment program.
(i)"Mailing list" means a permanent list of persons who request notification and information on public hearings, permits,

and other NPDES forms that is prepared and maintained by the department pursuant to the guidelines, these rules, and 1969 PA 306, MCL 24.201 et seq.
(j)"Management agency" means an area-wide waste treatment management agency that is designated by the governor pursuant to the provisions of section 208(a) of the federal act.
(k)"Manure" includes manure, bedding, compost, and raw materials or other materials commingled with manure or set aside for disposal.
(l)"Maximum extent practicable" or "MEP" means implementation of best management practices by a public body to comply with an approved storm water management program as required in a national permit for a municipal separate storm sewer system, in a manner that is environmentally beneficial, technically feasible, and within the public body's legal authority.
(m)"Medium CAFO" is defined as the following:
(i)Is an AFO that stables or confines the numbers of animals specified in any of the categories listed in subdivision (ii) of this subrule, and any of the following are met:
(A)Has been designated by the department as a CAFO under R 323.2196(3).
(B)Pollutants are discharged from the production area into waters of the state through a manmade ditch, pipe, tile, swale, flushing system, or other similar manmade conveyance.
(C)Pollutants are discharged directly into waters of the state from the production area which originate outside of and pass over, across, or through the facility or that otherwise come into direct contact with the animals confined in the operation.
(ii)Includes the following number and type of animals:
(A)200 to 699 mature dairy cows, whether milked or dry.
(B)300 to 999 veal calves.
(C)300 to 999 cattle other than mature dairy cows or veal calves.Cattle includes heifers, steers, bulls, and cow/calf pairs.
(D)750 to 2,499 swine each weighing 55 pounds or more.
(E)3,000 to 9,999 swine each weighing less than 55 pounds.
(F)150 to 499 horses.
(G)3,000 to 9,999 sheep or lambs.
(H)16,500 to 54,999 turkeys.
(I)9,000 to 29,999 laying hens or broilers, if the AFO uses a liquid manure handling system.
(J)37,500 to 124,999 chickens (other than laying hens), if the AFO uses other than a liquid manure handling system.
(K)25,000 to 81,999 laying hens, if the AFO uses other than a liquid manure handling system.
(L)10,000 to 29,999 ducks, if the AFO uses other than a liquid manure handling system.
(M)1,500 to 4,999 ducks, if the AFO uses a liquid manure handling system.
(n)"Minor discharge" means a discharge of wastewater which has a total volume of less than 50,000 gallons on every day of the year, which does not affect the waters of another state, and which is not identified by the department, the regional administrator, or by the administrator of the USEPA, in regulations issued by him or her pursuant to the provisions of section 307(a) of the federal act, as a discharge which is not a minor discharge, except that a discharge is not a minor discharge if there is a discharge of less than 50,000 gallons on any day of the year which represents 1 of 2 or more discharges from a single person, municipality, or industry that, in total, is more than 50,000 gallons on any day of the year.
(o)"Municipal separate storm sewer system" or "MS4" means all separate storm sewers that are owned or operated by the United States, a state, city, village, township, county, district, association, or other public body created by or pursuant to state law, having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under state law, such as a sewer district, flood control district, or drainage district, or similar entity, or a designated or approved management agency under section 208 of the federal act that discharges to waters of the state.This term includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares.The term does not include separate storm sewers in very discrete areas, such as individual buildings.
(p)"National permit" means an NPDES permit, or equivalent document or requirements, issued by the department to a discharger pursuant to sections 3106 and 3112 of part 31 of the act for discharges into surface waters.
(q)"New source" means a building, structure, facility, or installation from which waste, pollutants, or wastewater is or may be discharged into the surface or groundwaters of the state or on the ground and for which construction was commenced after publication of proposed regulations by the USEPA prescribing a standard of performance pursuant to the provisions of section 306(a) of the federal act that will be applicable to the source if the standard is thereafter promulgated in accordance with the provisions of section 306 of the federal act.
(r)"Noncompliance list" means a list of dischargers, which is prepared by the department pursuant to these rules and the guidelines for transmittal to the regional administrator, who fail or refuse to comply with a compliance schedule in a

permit issued pursuant to part 31 of the act.
(s)"Nondomestic source" or "source of nondomestic wastewater" means an industry, commercial establishment, or other entity that discharges wastewater to a publicly owned treatment works other than, or in addition to, water-carried wastes from toilet, kitchen, laundry, bathing, or other facilities that are used for household purposes.
(t)"NPDES" means the national pollutant discharge elimination system established by the federal act.
(u)"NPDES form" means any issued permit and any uniform national form which is used by the department, which is developed for use in the NPDES, and which is prescribed in regulations promulgated by the administrator of the USEPA, including an NPDES application and a reporting form.
(v)"On-site disposal system" means a natural system or mechanical device used to collect, treat and discharge, or reclaim wastewater from 1 or more dwelling units without the use of community-wide sewers or a centralized treatment facility.
History:1954 ACS 77, Eff. Oct. 17, 1973; 1979 AC; 1985 MR 3, Eff. Apr. 11, 1985; 1992 MR 10, Eff. Nov. 13, 1992; 2003 MR 10, Eff. May 15, 2003; 2005 MR 6, Eff. Apr. 6, 2005; 2006 MR 22, Eff. Dec. 1, 2006.

R 323.2104 Definitions; P to W.
Rule 2104.As used in this part:
(a)"Part 91 permitting entity" means an agency that is designated by a county board of commissioners pursuant to the provisions of section 9105 of part 91 of the act; an agency that is designated by a city, village, or township in accordance with the provisions of section 9106 of part 91 of the act; or the department if the construction activity is under the jurisdiction of 2 or more municipal or county enforcing agencies; or the department for soil erosion and sedimentation activities under part 615 or part 631 pursuant to the provisions of section 9115 of part 91 of the act.
(b)"Person" means an individual, partnership, association, corporation, industry, or public body.
(c)"Point source discharge" means a discharge that is released to the waters of the state by a discernible, confined, and discrete conveyance, including any of the following from which wastewater is or may be discharged:
(i)A pipe.
(ii)A ditch.
(iii)A channel.
(iv)A tunnel.
(v)A conduit.
(vi)A well.
(vii)A discrete fissure.
(viii)A container.
(ix)A concentrated animal feeding operation.
(x)A vessel or other floating craft.
The term does not include a legally established county or intercounty drain, except for a county or intercounty drain that has a POTW designated as part of the drain or a discharge otherwise required to be authorized by a national permit.
(d)"Production area" means that part of an AFO that includes animal confinement area, manure storage area, raw materials storage area, and waste containment areas.The animal confinement area includes open lots, housed lots, feedlots, confinement houses, stall barns, free stall barns, milk rooms, milking centers, cow yards, barnyards, medication pens, walkers, animal walkways, and stables.The manure storage area includes lagoons, runoff ponds, storage sheds, stockpiles, under-house or pit storages, liquid impoundments, static piles, and composting piles.The raw materials storage area includes feed silos, silage bunkers, and bedding materials.The waste containment area includes settling basins and areas within berms and diversions which separate uncontaminated storm water.Also included is any egg washing or egg processing facility, and any area used in the storage, handling, treatment, or disposal of mortalities.
(e)"Production area waste" means manure and any waste from the production area and any precipitation**,** for example, rain or snow**,** which comes into contact with, or is contaminated by, manure or any of the components listed in the definition for "production area."Production area waste does not include water from land application areas.
(f)"Public body" means the United States, the state of Michigan, city, village, township, county, school district, public college or university, single purpose governmental agency; or any other body which is created by federal or state statute or law.
(g)"Publicly owned treatment works" or "POTW" means either of the following:
(i)A facility or facilities which are owned by a governmental entity and which are used or intended to be used for the collection and treatment of municipal wastewater, including sewage, liquid industrial waste, and storm water.
(ii)The owner or owners of a facility or facilities specified in paragraph (i) of this subdivision.
(h)"Regional administrator" means the USEPA region V administrator.
(i)"Regulated MS4" means an MS4 that is required to have a national permit to discharge storm water into surface

waters of the state pursuant to R 323.2161(c), (d), (e), or (f).
(j)"Regulated pollutants" means all of the following:
(i)Pollutants that are limited by categorical pretreatment standards as defined in R 323.2302(q).
(ii)Pollutants for which control measures on nondomestic sources are necessary to avoid noncompliance with effluent limitations established in the POTW's discharge permit.
(iii)Pollutants for which control measures on nondomestic sources are necessary to avoid restricting the POTW's approved residuals management program.
(iv)Pollutants for which control measures on nondomestic sources are necessary to avoid operational problems at the treatment facility or collection system.
(k)"Reporting form" means the uniform NPDES reporting form, including subsequent additions, revisions, or modifications thereof, which is promulgated by the administrator of the USEPA and which is adopted by the department for use in administering these rules, or a state form that is prescribed by the department for use in administering these rules, for reporting data and information to the department by a discharger on monitoring and other conditions of permits.
(l)"Runoff coefficient" means the fraction of total rainfall that will appear at a conveyance as runoff.
(m)"Separate storm sewer system" means a system of drainage, including, but not limited to, roads, catch basins, curbs, gutters, parking lots, ditches, conduits, pumping devices, or man-made channels, which has the following characteristics:
(i)The system is not a combined sewer where storm water mixes with sanitary wastes.
(ii)The system is not part of a publicly owned treatment works (POTW).
(n)"Site" means the area where a construction activity is physically located or conducted, including adjacent land that is used in connection with the construction activity.
(o)"Small CAFO" means an AFO that is designated a CAFO by the department under R 323.2196(3) and is not a medium CAFO.
(p)"Soil erosion and sedimentation control permit" means a permit that is issued pursuant to the provisions of part 91 of the act by a part 91 permitting entity.
(q)"Soil erosion control measures" means the measures or procedures to prevent or reduce the pollution of waters of the state that are required in the soil erosion and sedimentation control permit for the site or the selected control measures from the approved control plan that are applicable to the site.
(r)"Stabilization of earth change activity" means the proper placement, grading, or covering of soil or rock at a construction activity to ensure subsequent resistance to soil erosion, sliding, or other earth movement.
(s)"State permit" means a permit or equivalent document or requirements that are issued by the department to a discharger who discharges wastewater on the ground or into groundwaters.
(t)"Storm water" means storm water runoff, snow melt runoff, and surface runoff and drainage.
(u)"Storm water discharge associated with industrial activity" means the discharge from any conveyance that is used for collecting and conveying storm water and that is directly related to manufacturing, processing, or raw materials storage areas at an industrial plant.The term does not include discharges from facilities or activities excluded from the national permits program under 40 C.F.R. §122.3 and §122.27 (2000).For the categories of industries identified in this subdivision, the term includes, but is not limited to, storm water discharges from all of the following:
(i)Industrial plant yards.
(ii)Immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility.
(iii)Material handling sites.For the purposes of this paragraph, material handling activities include storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product, by-product, or waste product.
(iv)Refuse sites.
(v)Sites used for the application or disposal of process waste waters, as defined at 40 C.F.R. §401.11 (2000).
(vi)Sites used for the storage and maintenance of material handling equipment.
(vii)Sites used for residual treatment, storage, or disposal.
(viii)Shipping and receiving areas.
(ix)Manufacturing buildings.
(x)Storage areas, including tank farms, for raw materials and intermediate and final products.
(xi)Areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water.
(xii)The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings

and accompanying parking lots as long as the drainage from the excluded areas is not mixed with storm water drained from the areas described in this paragraph.
(xiii)Industrial facilities include facilities that are federally, state, or municipally owned or operated that meet the description of the facilities listed in the following paragraphs and those facilities designated by the department under the provisions of R 323.2161(1)(f).The following categories of facilities are considered to be engaging in "industrial activity" for purposes of this subdivision:
(A)Facilities subject to EPA promulgated storm water effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards, except facilities that have toxic pollutant effluent standards which are exempted under paragraph (J) of this subdivision.
(B)Facilities classified as standard industrial classifications 24, except 2434; 26, except 265 and 267; 28, except 283; 29; 311; 32, except 323; 33; 3441; and 373.
(C)Facilities classified as standard industrial classifications 10 through 14, mineral industry, including active or inactive mining operations, except for areas of non-coal mining operations which were released from applicable state or federal reclamation requirements after December 17, 1990, and oil and gas exploration, production, processing, or treatment operations, or transmission facilities that discharge storm water contaminated by contact with, or that has come into contact with, any overburden, raw material, intermediate products, finished products, byproducts, or waste products located on the site of operations.Inactive mining operations are mining sites which are not being actively mined, but which have an identifiable owner/operator.Inactive mining sites do not include sites where mining claims are being maintained before disturbances associated with the extraction, beneficiation, or processing of mined materials and do not include sites where minimal activities are undertaken for the sole purpose of maintaining a mining claim.
(D)Hazardous waste treatment, storage, or disposal facilities, including those that are operating under interim status or a permit under subtitle c of the federal resource conservation and recovery act.
(E)Landfills, land application sites, and open dumps that receive or have received any industrial wastes, waste that is received from any of the facilities described under this subdivision, including those that are subject to regulation under subtitle D of the federal resource conservation and recovery act.
(F)Facilities involved in the recycling of materials, including metal scrap yards, battery reclaimers, salvage yards, and automobile junkyards, which are classified as standard industrial classification 5015 and 5093.
(G)Steam electric power generating facilities, including coal handling sites.
(H)Transportation facilities classified as standard industrial classifications 40; 41; 42, except 4221 to 25; 43; 44; 45; and 5171 which have vehicle maintenance shops, equipment cleaning operations, or airport deicing operations.Only those portions of the facility that are either involved in vehicle maintenance, including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication; equipment cleaning operations, airport deicing operations, or which are otherwise identified under paragraphs (i) to (vii), (ix), or (x) of this subdivision are associated with industrial activity.
(I)Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge that is located within the confines of the facility, provided the system has a design flow of 1.0 million gallons per day or more, or is required to have an approved federal pretreatment program under 40 C.F.R., part 403 (2000).Not included are farm lands, domestic gardens, or lands used for sludge management where sludge is beneficially reused and which are not physically located in the confines of the facility, or areas that are in compliance with
section 405 of the federal act.
(J)Facilities under standard industrial classifications 20; 21; 22; 23; 2434; 25; 265; 267; 27; 283; 285; 30; 31, except 311; 323; 34, except 3441; 35; 36; 37, except 373; 38; 39; and 4221 to 25.
(v)"Total maximum daily load" or "TMDL" means a written, quantitative plan and analysis for attaining and maintaining water quality standards in all seasons for a specific water body and pollutant.
(w)"Trade secret" means the whole or any portion or phase of any manufacturing proprietary process or method which is not patented, which is secret, which is useful in compounding an article of trade that has a commercial value, and the secrecy of which the owner has taken reasonable measures to prevent from becoming available to persons other than those selected by the owner to have access thereto for limited purposes."Trade secret" shall not be construed, for purposes of these rules, to include any information relative to the quantum and character of waste products or their constituents discharged or sought to be discharged into waters of this state.
(x)"Urbanized area" means a place and the adjacent densely populated territory that together have a minimum population of 50,000 people, as defined by the United States bureau of the census and as determined by the latest available decennial census.
(y)"Urbanizing area" means an area of contiguous census blocks with population densities of 1,000 persons or more per square mile that together have a population of 10,000 people or more, as determined by the latest available decennial

census.
(z)"Vessel" means any contrivance that is used or capable of being used for navigation upon water, whether or not the contrivance is capable of self-propulsion, including any of the following:
(i)Foreign and domestic vessels that are engaged in commerce upon the waters of the state.
(ii)Passenger or other cargo-carrying vessels.
(iii)Privately owned recreational watercraft.
(iv)Any other floating craft.
(aa)"Waste" means any waste, wastewater, waste effluent, or pollutant that is discharged into water, including any of the following:
(i)Dredged spoil.
(ii)Solid waste.
(iii)Incinerator residue.
(iv)Sewage.
(v)Garbage.
(vi)Sewage sludge.
(vii)Munitions.
(viii)Chemical wastes.
(ix)Biological materials.
(x)Radioactive materials.
(xi)Heat.
(xii)Wrecked or discarded equipment.
(xiii)Rock.
(xiv)Sand.
(xv)Cellar dirt.
(xvi)Industrial, municipal, and agricultural waste.
(bb)"Wastewater" means liquid waste discharges directly or indirectly into the waters of the state that result from industrial and commercial processes and municipal operations, including liquid or water-carried process waste, cooling and condensing waters, and sanitary sewage.
(cc)"Water quality standards" means the part 4 water quality standards promulgated pursuant to part 31 of 1994 PA 451, as amended, being R 323.1041 to 323.1117 of the Michigan administrative code.
History:1954 ACS 77, Eff. Oct. 17, 1973; 1979 AC; 1985 MR 3, Eff. Apr. 11, 1985; 1992 MR 10, Eff. Nov. 13, 1992; 2003 MR 10, Eff. May 15, 2003; 2005MR 6, Eff. Apr.6, 2005; 2006 MR 22, Eff. Dec. 1, 2006.

R 323.2106
Source: 2003 AACS.

R 323.2108 Permits; application and filing procedures.
Rule 2108.(1)An application for a permit shall be completed in accordance with and subject to guidelines in 40 C.F.R. §122.21 (2005).
(2)A person discharging waste or wastewater from more than 1 location shall file a separate application for each discharge location.A single application may be filed for multiple outfalls discharging from a single location, except that the discharge from each outfall shall be described separately in the application.
History:1954 ACS 77, Eff. Oct. 17, 1973; 1979 AC; 2003 MR10,Eff.May15, 2003; 2005 MR 6, Eff. Apr. 6, 2005; 2006 MR 22, Eff. Dec. 1, 2006.

R 323.2109
Source: 2005 AACS.

R 323.2111.
Source: 2003 AACS.

R 323.2112
Source: 2003 AACS.

R 323.2114
Source: 2003 AACS.

R 323.2115
Source: 2003 AACS.

R 323.2117
Source: 2003 AACS.

R 323.2118
Source: 2003 AACS.

R 323.2119
Source: 2003 AACS.

R 323.2121
Source: 2003 AACS.

R 323.2122
Source: 2003 AACS.

R 323.2124
Source: 2003 AACS.

R 323.2125
Source: 2003 AACS.

R 323.2126
Source: 2003 AACS.

R 323.2127
Source: 2003 AACS.

R 323.2128
Source: 2003 AACS.

R 323.2130
Source: 2003 AACS.

R 323.2131
Source: 2003 AACS.

R 323.2133
Source: 2003 AACS.

R 323.2134
Source: 2003 AACS.

R 323.2136
Source: 2003 AACS.

R 323.2137
Source: 2003 AACS.

R 323.2138
Source: 2003 AACS.

R 323.2139
Source: 2003 AACS.

R 323.2140

Source: 2003 AACS.

R 323.2141
Source: 2003 AACS.

R 323.2142
Source: 2003 AACS.

R 323.2145
Source: 2003 AACS.

R 323.2146
Source: 2003 AACS.

R 323.2147
Source: 2003 AACS.

R 323.2149
Source: 2003 AACS.

R 323.2150
Source: 2003 AACS.

R 323.2151
Source: 2003 AACS.

R 323.2153
Source: 2003 AACS.

R 323.2154
Source: 2003 AACS.

R 323.2155
Source: 2003 AACS.

R 323.2159
Source: 2003 AACS.

R 323.2160
Source: 2003 AACS.

R 323.2161 Storm water discharge permits.
Rule 2161.(1)A person who discharges storm water that is subject to regulation pursuant to the provisions of section 402(p) of the federal act and the corresponding regulations promulgated in 40 C.F.R. §122.26 (2000) shall apply for or obtain a national permit if the person has, will have, or operates any of the following:
(a)Storm water discharges associated with industrial activity.A national permit is not required if, in accordance with 40 C.F.R. §122.26(g) (2000), a discharge composed entirely of storm water is not a storm water discharge associated with industrial activity because there is no exposure of industrial materials and activities to rain, snow, snowmelt, or runoff, or any combination, and if the discharger has met the conditions of no exposure listed on a certification form provided by the department.The discharger shall complete, sign, and submit to the department the certification form provided by the department.A new certification form shall be submitted once every 5 years to qualify for continuation of the no exposure exclusion.This exclusion provision shall no longer apply and a national permit shall be required under either of the following conditions:
(i)If circumstances change and industrial materials or activities become exposed to rain, snow, snowmelt, or runoff, or any combination, then the conditions for this exclusion no longer apply.Any conditionally exempt discharger who anticipates changes in circumstances shall apply for and obtain national permit authorization before the change of circumstances.Failure to do so could result in penalties as provided under part 31 of the act for a discharge without a permit.

(ii)Notwithstanding the provisions of this subdivision, the department retains the authority to require national permit authorization, and deny this exclusion, upon making a determination that the discharge causes, has a reasonable potential to cause, or contributes to, a violation of an applicable water quality standard.
(b)Storm water discharges from a site of construction activity.The notice of coverage shall be received before the startup of construction for any storm water discharge from a site of construction activity disturbing 5 acres or more.
(c)An MS4 located in an urbanized area, except those exempted through cooperation with a permitted MS4 owner or operator under R 323.2161(2).Only storm water that flows from within the urbanized area is regulated.
(d)An MS4 located within an urbanizing area, which is designated by the department to need a national permit on the basis that it discharges storm water which results in a violation of water quality standards or which would imminently result in a violation of water quality standards in the absence of regulation.
(e)Designation from the department that storm water controls are needed for the discharge based on wasteload allocations that are part of total maximum daily loads (TMDLs) developed by the department that address the pollutants of concern.
(f)A discharge, or category of discharges within a geographic area, that is determined by the department to be a significant contributor of pollutants to waters of the state, or to contribute to a violation of water quality standards, or to contribute substantially to the pollutant loadings of a physically interconnected, regulated MS4.
(g)A storm water discharge that is the subject of a petition to the department to require a national permit, and the department determines that the discharger shall apply for a national permit in accordance with subdivision (f) of this subrule.
(2)If a national permit application is required for a municipal separate storm sewer system under subdivision (c), (d), (e), or (f) of this subrule, then each city, village, or township with the power or authority to control storm water discharges to the regulated MS4 shall apply for a national permit.An MS4 owner or operator other than a city, village, or township may cooperate with a permitted MS4 owner or operator so that the terms and conditions of the national permit may be met by the permitted MS4 owner or operator for the other owner or operator's municipal separate storm sewer system or systems in the regulated area.In this case, the MS4 owner or operator that is not a city, village, or township does not need to apply for a national permit.An MS4 owner or operator that is not a city, village, or township that cannot reach a cooperative agreement with the permitted MS4 owner or operator shall apply for a national permit for the MS4 it owns or operates.
(3)A person who is designated by the department to be regulated in accordance with subrule (1)(d), (e), or (f) of this rule shall apply to the department for a national permit within 180 days of receipt of notice from the department that a national permit is needed, unless permission for a later date is granted by the department.This subrule does not apply to storm water discharged from a site of construction activity.
History:1992 MR 10, Eff. Nov. 13, 1992; 2003 MR 10, Eff.May15,2003; 2006 MR 22, Eff. Dec. 1, 2006.

R 323.2161a
Source: 2003 AACS.

R 323.2162
Source: 1997 AACS.

R 323.2163
Source: 1997 AACS.

R 323.2164
Source: 1997 AACS.

R 323.2165
Source: 1997 AACS.

R 323.2166
Source: 1997 AACS.

R 323.2167
Source: 1997 AACS.

R 323.2168
Source: 1997 AACS.

R 323.2169
Source: 1997 AACS.

R 323.2170
Source: 1997 AACS.

R 323.2172
Source: 1997 AACS.

R 323.2173
Source: 1997 AACS.

R 323.2174
Source: 1997 AACS.

R 323.2175
Source: 1997 AACS.

R 323.2176
Source: 1997 AACS.

R 323.2177
Source: 1997 AACS.

R 323.2178
Source: 1997 AACS.

R 323.2179
Source: 1997 AACS.

R 323.2180
Source: 1997 AACS.

R 323.2181
Source: 1997 AACS.

R 323.2182
Source: 1997 AACS.

R 323.2183
Source: 1997 AACS.

R 323.2184
Source: 1997 AACS.

R 323.2185
Source: 1997 AACS.

R 323.2186
Source: 1997 AACS.

R 323.2189 Referenced federal regulations; definitions; adoption of standards by reference.
Rule 2189.(1)As used in the federal regulations referenced in R 323.2161, the terms "NPDES state" and "NPDES authority" shall mean the department of environmental quality as specified in this rule.
(2)The following federal regulations are adopted by reference in these rules, are available for inspection at the Lansing office of the department of environmental quality, and may be obtained from the Department of Environmental Quality, Water Division, P.O. Box 30273, Lansing, MI 48909, at a cost as of the time of adoption of these rules of 5 cents per page and a labor rate of $19.20 per hour, or from the Superintendent of Documents, Government Printing Office,

Washington, DC 20402, at a cost as of the time of the adoption of these rules of $45.00 for 40 C.F.R. Parts 100-135, $56.00 for 40 C.F.R. Parts 400-424, and $61.00 for 40 C.F.R. Parts 425-699; or via the Internet at http://bookstore.gpo.gov:
(a)40 C.F.R. §122.3(e) (2000).
(b)40 C.F.R. §122.7. (2000).
(c)40 C.F.R. §122.21 (2005).
(d)40 C.F.R. §§122.26 to 27 (2000).
(e)40 C.F.R. §122.28(b)(2)(v) (2000).
(f)40 C.F.R. §§122.34 to 35 (2000).
(g)40 C.F.R. §§122.41 to 122.43 (2000).
(h)40 C.F.R. §122.44 (2005).
(i)40 C.F.R. §§122.45 to 122.49 (2000).
(j)40 C.F.R. §§125.80 to 125.99 (2005), except 40 C.F.R. §§125.89 and 125.98 (2005).“New source” as used in this subdivision is defined in 40 C.F.R. §122.2.“New source” as used elsewhere in these rules shall be as defined in R 323.2103.
(k)40 C.F.R. §401.11 (2000).
(l)40 C.F.R. §403 (2000).
(m)40 C.F.R. §412 (2003) except that the definition for “land application area” shall be as defined in R 323.2103.
(n)40 C.F.R. §451 (2005).
History:1985 MR 3, Eff. Apr. 11, 1985; 1990 MR 8, Eff.Aug.21, 1990; 1992 MR 10, Eff. Nov. 13, 1992; 1995 MR 8, Eff. Sept. 8, 1995;2003MR10, Eff. May 15, 2003; 2005 MR 6, Eff. Apr. 6, 2005; 2006 MR22,Eff.Dec.1, 2006.

R 323.2190 National permit for storm water discharge from construction activity.
Rule 2190.(1)Unless the department has required an individual national permit pursuant to the provisions of subrule (3) or (4) of this rule, a point source discharge of storm water from a construction activity will be deemed to have a national permit authorizing the discharge if the criteria of subdivisions (a) and (b) of this subrule are met.Exception:small construction activities, meaning 1 to 5 acres of disturbed soil as defined in 40 C.F.R. §122.26(b)(15), are automatically deemed to have a national permit authorizing discharge of storm water in accordance with this rule and are not required to meet the filing requirements of subdivision(a) or (b) of this subrule, subrule (2)(j) of this rule, and subrule(5)(b) of this rule.The construction permittee shall do both of the following:
(a)File with the department, on a form approved by the department, notice of coverage pursuant to the provisions of this rule before the initiation of construction activity.The notice of coverage shall include all of the following:
(i)A copy of the individual soil erosion and sedimentation control permit for the site as issued to the construction permittee; or if the construction activity is to be carried out by an authorized public agency, certification by the authorized public agency that an approved control plan exists; or, for part 615 or part 631 permits, a copy of the permit, along with any forms or diagrams pertaining to soil erosion and sedimentation control that were part of the permit application.
(ii)Acknowledgement by the construction permittee that any discharge that is made pursuant to the provisions of this rule shall be in compliance with part 31 of the act and the rules promulgated thereunder.
(iii)A location map and a description of the nature of the construction activity.
(iv)The location of the proposed discharge and identification of the receiving water.
(v)The total area of the site and the area of the site that is expected to undergo construction activity during the life of the project.
(vi)Name and certification number of a certified storm water operator responsible for inspection of the construction activity in accordance with subrule (2)(e) of this rule.
(b)Provide a valid signature of the construction permittee or authorized representative on the notice of coverage.If the construction permittee is a partnership, association, corporation, industry, municipality, state agency, or interstate body, the valid signatory for the notice of coverage shall be determined in accordance with R 323.2114.
(2)A construction permittee that has authorization to discharge under a national permit pursuant to subrule (1) of this rule shall comply with all of the following provisions:
(a)Not directly or indirectly discharge wastes such as discarded building materials, concrete truck washout, chemicals, lubricants, fuels, litter, sanitary waste, or any other substance at the construction site into the waters of the state in violation of part 31 of the act or rules promulgated thereunder.
(b)Be in compliance with a soil erosion and sedimentation control permit for the site or, if the construction activity is carried out by an authorized public agency, the approved control plan, including the selected control measures that are applicable to the site.

(c)Properly maintain and operate the soil erosion control measures.
(d)Have the soil erosion control measures under the specific supervision and control of a storm water operator who has been certified by the department as properly qualified to operate the soil erosion control measures.The certification shall be done in accordance with the requirements of R 323.1251 et seq.
(e)Cause the construction activity to be inspected by a certified storm water operator once per week, and within 24 hours after every precipitation event that results in a discharge from the site, and ensure that any needed corrective actions are carried out.A log of the inspections and corrective actions shall be maintained on file by the construction permittee for review and shall be retained by the construction permittee for a period of 3 years from the date of the inspection or corrective action.
(f)In accordance with the requirements for on-land facilities as set forth in spillage of oil and polluting materials, being part 5 of these rules, provide facilities and comply with reporting procedures for containment of any accidental losses of oil or other polluting materials.
(g)Dispose of solids, sediment, filter backwash, or other waste that is removed from or results from the treatment or control of storm water in compliance with applicable state laws and regulations and in a manner that prevents any waste from entering waters of the state.
(h)Allow the department to enter upon the site at any reasonable time before the expiration of the authorization to discharge as set forth in subrule (5) of this rule, upon presentation of credentials and other documents as may be required by law, for the purpose of inspecting conditions relating to the pollution of any waters or determining compliance with the provisions of this rule.
(i)Upon request, make available for public inspection or provide to the department all reports or logs prepared pursuant to the provisions of this rule.
(j)File a revised notice of coverage in compliance with the provisions of subrule (1) of this rule before any expansion of the construction activity or change in the soil erosion control measures that requires a change in the soil erosion and sedimentation control permit.
(3)The department may require that discharges from a construction activity be authorized by an individual national permit if it has been determined by the department that unlawful pollution cannot be adequately guarded against, and there is or may be water quality degradation that will violate the commission act unless requirements in addition to those in the soil erosion and sedimentation control permit are imposed.A determination by the department for an individual national permit or other additional control constitutes grounds for revocation of the authorization to discharge pursuant to the provisions of this rule.
(4)The department may require that discharges from a construction activity be authorized by an individual national permit if it has been determined by the department that the responsible part 91 permitting entity or authorized public agency is not carrying out a program that is adequate to ensure that the requirements of part 91 of the act are complied with.
(5)The authorization to discharge pursuant to the provisions of this rule expires as follows:
(a)When the soil erosion and sedimentation control permit expires, or is revoked or terminated by the part 91 permitting entity in accordance with the provisions of part 91 of the act and 1969 PA 306, MCL 24.201 et seq., or when the authorized public agency determines that the project has been completed by the stabilization of earth change activity.
(b)Five years from the date of the notice that is filed pursuant to the provisions of subrule (1)(a) of this rule, if the authorization to discharge has not previously expired pursuant to subdivision (a) of this subrule.This authorization may be extended by filing a new notice in compliance with the provisions of subrule (1)(a) of this rule.The construction permittee shall file a notice of termination with the department, on a form approved by the department, when authorization to discharge expires as set forth in accordance with subdivision (a) of this subrule.The notice of termination shall include the name and address of the construction permittee, the location of the construction site, and the mailing address, if available, and certification that stabilization of earth change activity has been completed or, if the certification cannot be made, the reason why the authorization to discharge has expired.
(6)The department may revoke authorization to discharge pursuant to the provisions of this rule if an individual national permit is required pursuant to the provisions of subrule (3) of this rule or in compliance with R 323.2159.
(7)Nothing in this rule shall be construed to preclude the institution of any legal action or relieve the construction permittee from any responsibilities, liabilities, or penalties to which the construction permittee may be subject pursuant to part 31 of the act or rules promulgated thereunder.
(8)The provisions of this rule are severable, and if any provision of this rule or the application of any provisions of this rule to any circumstances is held invalid, the application of the provisions of this rule to other circumstances and the remainder of this rule shall not be affected by the invalidity.
(9)The construction permittee shall take all reasonable steps to minimize any adverse impact to the surface or groundwaters of the state that result from noncompliance with any of the conditions specified in this rule.

(10)If, for any reason, the construction permittee does not comply with, or will be unable to comply with, any of the conditions that are specified in this rule, the construction permittee shall provide the department with the following information, in writing, within 5 days of becoming aware of the noncompliance or inability to comply:
(a)A description of the noncompliance and its cause.
(b)The period of noncompliance, including exact dates and times, or, if the noncompliance is not corrected, the anticipated time that the noncompliance is expected to continue and the steps taken to reduce, eliminate, and prevent recurrence of the noncompliance.
(11)The provisions of this rule do not convey any property rights in either real or personal property, or any exclusive privileges, authorize any pollution, impairment, or destruction of the natural resources of the state, or the violation of any federal, state, or local laws or regulations, or obviate the necessity of obtaining permits or approvals from other units of government as may be required by law.
(12)The provisions of this rule do not exempt the construction permittee from giving notice to public utilities and complying with each of the requirements of 1974 PA 53, MCL 460.701 et seq.
(13)This rule shall not provide authorization to discharge storm water from construction activity which is mixed with non-storm water, or which is subject to an existing national permit or general permit.
History:1992 MR 10, Eff. Nov. 13, 1992; 2003 MR 10, Eff.May15,2003; 2006 MR 22, Eff. Dec. 1, 2006.

R 323.2191
Source: 2003 AACS.

R 323.2192
Source: 2003 AACS.

R 323.2193
Source: 2003 AACS.

R 323.2194
Source: 1998-2000 AACS.

R 323.2195
Source: 2003 AACS.

R 323.2196
Source: 2005 AACS.

R 323.2197 Cooling water intake structures.
Rule 2197.For a facility with cooling water intake systems regulated under 40 C.F.R. §125.91, the following controls apply:
A facility that withdraws cooling water from a connecting water of the Great Lakes shall be subject to entrainment performance standards at §125.94(b)(2).
A facility that withdraws cooling water from a waterway with open fish passage to 1 of the Great Lakes and is located within 30 miles of the lake, but does not withdraw cooling water from a Great Lake or a connecting water of the Great Lakes, shall be subject to entrainment performance standards at §125.94(b)(2) if the director determines that such regulation is appropriate to prevent significant impact to Great Lakes' fish or shellfish populations caused by entrainment.
History: 2006 MR 22, Eff. Dec. 1, 2006.

PART 22. GROUNDWATER QUALITY

R 323.2201
Source: 1998-2000 AACS.

R 323.2202
Source: 1998-2000 AACS.

R 323.2203

Source: 1998-2000 AACS.

R 323.2204
Source: 1998-2000 AACS.

R 323.2205
Source: 1998-2000 AACS.

R 323.2206
Source: 1998-2000 AACS.

R 323.2207
Source: 1998-2000 AACS.

R 323.2208
Source: 1998-2000 AACS.

R 323.2209
Source: 1998-2000 AACS.

R 323.2210
Source: 1998-2000 AACS.

R 323.2211
Source: 1998-2000 AACS.

R 323.2212
Source: 1998-2000 AACS.

R 323.
Source: 1998-2000 AACS.

R 323.2214
Source: 1998-2000 AACS.

R 323.2215
Source: 1998-2000 AACS.

R 323.2216
Source: 1998-2000 AACS.

R 323.2217
Source: 1998-2000 AACS.

R 323.2218
Source: 1998-2000 AACS.

R 323.2219
Source: 1998-2000 AACS.

R 323.2220
Source: 1998-2000 AACS.

R 323.2221
Source: 1998-2000 AACS.

R 323.2222
Source: 1998-2000 AACS.

R 323.2223
Source: 1998-2000 AACS.

R 323.2224
Source: 1998-2000 AACS.

R 323.2225
Source: 1998-2000 AACS.

R 323.2226
Source: 1998-2000 AACS.

R 323.2227
Source: 1998-2000 AACS.

R 323.2229
Source: 1998-2000 AACS.

R 323.2230
Source: 1998-2000 AACS.

R 323.2231
Source: 1998-2000 AACS.

R 323.2232
Source: 1998-2000 AACS.

R 323.2233
Source: 1998-2000 AACS.

R 323.2234
Source: 1998-2000 AACS.

R 323.2235
Source: 1998-2000 AACS.

R 323.2237
Source: 1998-2000 AACS.

R 323.2238
Source: 1998-2000 AACS.

R 323.2240
Source: 1998-2000 AACS.

PART 23. PRETREATMENT

R 323.2301
Source: 1995 AACS.

R 323.2302
Source: 1995 AACS.

R 323.2303
Source: 1995 AACS.

R 323.2304

Source: 1995 AACS.

R 323.2305
Source: 1995 AACS.

R 323.2306
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R 323.2311
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R 323.2312
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R 323.2313
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R 323.2314
Source: 1995 AACS.

R 323.2315
Source: 1995 AACS.

R 323.2316
Source: 1995 AACS.

R 323.2317
Source: 1995 AACS.

DEPARTMENT OF ENVIRONMENTAL QUALITY

SURFACE WATER QUALITY DIVISION

WATER RESOURCES PROTECTION

PART 24. LAND APPLICATION OF BIOSOLIDS

R 323.2401
Source: 1998-2000 AACS.

R 323.2402
Source: 1998-2000 AACS.

R 323.2403
Source: 1998-2000 AACS.

R 323.2404
Source: 1998-2000 AACS.

R 323.2405
Source: 1998-2000 AACS.

R 323.2406
Source: 1998-2000 AACS.

R 323.2407
Source: 1998-2000 AACS.

R 323.2408
Source: 1998-2000 AACS.

R 323.2409
Source: 1998-2000 AACS.

R 323.2410
Source: 1998-2000 AACS.

R 323.2411
Source: 1998-2000 AACS.

R 323.2412
Source: 1998-2000 AACS.

R 323.2413
Source: 1998-2000 AACS.

R 323.2414
Source: 1998-2000 AACS.

R 323.2415
Source: 1998-2000 AACS.

R 323.2416
Source: 1998-2000 AACS.

R 323.2417
Source: 1998-2000 AACS.

R 323.2418
Source: 1998-2000 AACS.

SURFACE WATER QUALITY DIVISION

WATER RESOURCES PROTECTION

PART 30. WATER QUALITY TRADING

R 323.3001
Source: 2002 AACS.

R 323.3002
Source: 2002 AACS.

R 323.3003
Source: 2002 AACS.

R 323.3004
Source: 2002 AACS.

R 323.3005
Source: 2002 AACS.

R 323.3006
Source: 2002 AACS.

R 323.3007
Source: 2002 AACS.

R 323.3008
Source: 2002 AACS.

R 323.3009
Source: 2002 AACS.

R 323.3010
Source: 2002 AACS.

R 323.3012
Source: 2002 AACS.

R 323.3013
Source: 2002 AACS.

R 323.3014
Source: 2002 AACS.

R 323.3015
Source: 2002 AACS.

R 323.3016
Source: 2002 AACS.

R 323.3017
Source: 2002 AACS.

R 323.3018
Source: 2002 AACS.

R 323.3019
Source: 2002 AACS.

R 323.3020
Source: 2002 AACS.

R 323.3021
Source: 2002 AACS.

R 323.3022
Source: 2002 AACS.

R 323.3023
Source: 2002 AACS.

R 323.3024
Source: 2002 AACS.

R 323.3025
Source: 2002 AACS.

R 323.3026
Source: 2002 AACS.

R 323.3027
Source: 2002 AACS.

DEPARTMENT OF ENVIRONMENTAL QUALITY

LAND AND WATER MANAGEMENT DIVISION

INLAND LAKES AND WETLANDS UNIT

AQUATIC NUISANCE CONTROL

R 323.3101
Source: 2003 AACS.

R 323.3102
Source: 2003 AACS.

R 323.3103
Source: 2003 AACS.

R 323.3104
Source: 2003 AACS.

R 323.3105
Source: 2003 AACS.

R 323.3106
Source: 2003 AACS.

R 323.3107
Source: 2003 AACS.

R 323.3108
Source: 2003 AACS.

R 323.3109
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R 323.3110
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DEPARTMENT OF ENVIRONMENTAL QUALITY

OFFICE OF ADMINISTRATIVE HEARINGS

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R 324.415
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R 324.416
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PART 5. COMPLETION AND OPERATION

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R 324.801
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PART 10. WELL SITES AND SURFACE FACILITIES; PREVENTION OF FIRES, POLLUTION, AND DANGER TO, OR DESTRUCTION OF, PROPERTY OR LIFE

R 324.1001
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R 324.1002
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R 324.1003
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R 324.1004
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R 324.1006
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R 324.1007
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R 324.1008
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R 324.1009
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R 324.1010
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R 324.1011
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R 324.1108
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R 324.1109
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R 324.1110
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R 324.1111
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R 324.1112
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R 324.1113
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R 324.1114
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R 324.1120
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R 324.1121
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R 324.1123
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R 324.1124
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R 324.1201
Source: 1996 AACS.

R 324.1202
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R 324.1204
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R 324.1205
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R 324.1206
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R 324.1208
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R 324.1209
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R 324.1210
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R 324.1211
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R 324.1212
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PART 13. ENFORCEMENT

R 324.1301
Source: 2002 AACS.

DEPARTMENT OF ENVIRONMENTAL QUALITY

ENVIRONMENTAL ASSISTANCE DIVISION

ENVIRONMENTAL LABORATORY RECOGNITION PROGRAM

R 324.1401 Definitions.
Rule 1401. Unless the context requires a different meaning, the words defined in these rules have the following definitions:
(a) "Act" means 2004 PA 229, MCL 324.20501.
(b) "ID" means identification.
(c) "IDOC" means initial demonstration of capability.
(d) "LRP" means laboratory recognition program.
(e) "MDL" means method detection limit.
(f) "MS" means matrix spike.
(g) "NIST" means national institute of science and technology.
(h) "Parameter" means a specific analyte in a defined matrix or program that is analyzed using a published test method.
(i) "PTS" means proficiency test studies.
(j) "QAM" means quality assurance manual.
(k) "QCS" means quality control standard.
(l) "Qualification" means an informative statement associated with a report or analytical data that informs the reader that a discrepancy or a particular event has taken place.
(m) "RL" means reporting limit.
(n) "RSD" means relative standard deviation.
(o) "SOP" means standard operating procedure.
(p) "Support equipment" means equipment used to support an analytical procedure that is traceable.
(q) "TDS" means total dissolved solids.
(r) "Traceable" means documentation that provides for a clear and direct pathway to an organization that validates the accuracy of measurements. These organizations include the national institute of science and technology, international system of measurement or other accredited body considered acceptable to the department.
History: 2007 MR 23, Eff. Dec. 11, 2006.

R 324.1402 Pre-application requirements.
Rule 1402. (1) The laboratory shall be commercial with the intent of generating analytical data for submission to the department for compliance purposes under the Natural Resources and Environmental Protection Act, 1994 PA 451, MCL 324.101, or other analytes specified in department contracts, work orders, operational memos or permits.
(2) Only specified methodologies shall be recognized by the LRP. The department maintains an informational list of methods and analytes that may be recognized under the LRP. A copy of this list shall be furnished upon request.
History: 2007 MR 23, Eff. Dec. 11, 2006.

R 324.1403 Application and Application Process.

Rule 1403. (1) An applicant for recognition shall submit to the LRP a completed application, the required supporting documentation, and specified fees on forms prepared and furnished by the LRP. An application package may be requested from the LRP by phone, e-mail, or written request. The following applies to the application package:

(a) Each form in the application package shall be completed in its entirety, including all of the following:

(i) Fee invoice form with check or money order for the specified amount.

(ii) General laboratory application form documenting general information about the laboratory including, but not limited to, personnel, facilities, location, capacity, and equipment.

(iii) Identification of methodology form documenting all program/method/analyte combinations that the laboratory is applying for recognition.

(iv) Attestation form documenting the attestation by a responsible person representing the laboratory stating that the application and supporting documentation submitted is true, accurate, and complete. Falsification of the application or supporting documentation submitted to the LRP is grounds for the denial or the termination of recognition and the forfeiture of fees already paid.

(v) Quality systems checklist form verifying that the laboratory's quality systems contain all of the critical policies and procedures for certification and the location in the laboratory's documentation.

(b) Required supporting documentation to be submitted with the initial application, including the following:

(i) QAM as required in R 324.1411(d).

(ii) Internal audit summary report as required in R 324.1405(6).

(iii) PTS results as required in R 324.1406.

(iv) An index of the laboratory's SOPs including the date of issue, revision number, identification number, and title. The LRP reserves the right to request copies of the laboratory's SOPs.

(v) A summary of the laboratory's IDOC and MDL data for all analytes specified on the identification of methodology form. The LRP reserves the right to request a copy of all IDOC and MDL raw data.

(2) For a laboratory application package to be reviewed, it shall be complete, received with the proper fees, and include the required supporting documentation.

(3) Applications shall be reviewed and processed in the order that they are received.

(4) If the application package is reviewed and approved, then the laboratory may be contacted to schedule an on-site inspection.

(5) Application packages not complying with subdivision (1)(a) of this rule or not containing the required supporting documentation specified in subdivision (1)(b) of this rule shall be issued a deficiency report that outlines the deficiencies in the laboratory's application package. The laboratory shall correct all application and compliance deficiencies and resubmit the application package to the LRP within 45 days of the deficiency notification.

(6) Failure to comply with subrule (5) of this rule is grounds for denial of the application and forfeiture of application fees already paid.

History: 2007 MR 23, Eff. Dec. 11, 2006.

R 324.1404 Fees.

Rule 1404. (1) The laboratory shall pay an initial fee of $750.00 with the submittal of the initial application package.

(2) The laboratory shall pay a fee of $500.00 with the submittal of the application package for recognition renewal. The application package for renewal shall be postmarked not later than 90 days before the laboratory's recognition expiration date.

(3) The laboratory shall submit a fee of $500.00 for the LRP to process a midterm addition of analyte(s) to a laboratory's list of recognized parameters. The laboratory shall contact the LRP in advance for the list of materials required to support the addition of parameters. The recognition period for the additional parameters shall coincide with the existing recognition period.

History: 2007 MR 23, Eff. Dec. 11, 2006.

R 324.1405 Internal audit requirements.

Rule 1405. (1) An internal audit shall be completed by the laboratory before application is made for recognition and not less than once per 12-month period thereafter.

(2) The internal audit shall be conducted by personnel not involved in the direct production of analytical results when possible. This person shall be free of managerial influence and pressures that might bias the results of the internal audit.

(3) The laboratory shall have written procedures on how to conduct and document an internal audit. The procedures shall cover the review of the quality systems including the QAM and the laboratory's SOPs.

(4) The internal audit shall compare the correctness of the laboratory's defined procedures versus the applicable

regulations and methodologies. In addition, the internal audit shall verify that the laboratory is following its written procedures.
(5) The laboratory shall clearly document all deviations identified during the internal audit process.
(6) The laboratory shall write an internal audit report with a corrective action plan for all deviations and deficiencies documented by the internal audit process. The corrective action plan shall define the steps necessary to meet the minimal requirements of the applicable regulations or methodologies and the date that the corrective actions shall be completed.
History: 2007 MR 23, Eff. Dec. 11, 2006.

R 324.1406 PTS requirements.
Rule 1406. (1) The laboratory shall conduct a PTS using a provider acceptable to the department.
(2) The scope of the PTS shall include an evaluation of each LRP parameter for which a laboratory applies or maintains recognition.
(3) For initial recognition and to remain in compliance, the laboratory shall maintain not less than 1 acceptable result for each parameter analyzed for the LRP within a rolling 12-month period.
(4) The laboratory shall submit or have submitted by the provider to the LRP results for all PTS run by the laboratory for its recognized parameters. The department may request results to be sent directly from the provider.
(5) The laboratory shall evaluate all PTS analytes in the same manner, frequency, and technique, as environmental samples.
(6) The laboratory shall not send any PTS to other laboratories. The laboratory may not provide or accept any PTS results before the closing date of the study.
(7) For each "not acceptable" result in a PTS, the laboratory shall review the cause of the unacceptable result and document all findings and corrective actions.
History: 2007 MR 23, Eff. Dec. 11, 2006.

R 324.1407 Laboratory Reporting Criteria.
Rule 1407. (1) Test reports that are governed by contracts let by the department shall clearly indicate all non-recognized parameters, if recognition is available under the LRP.
(2) Results reported to the department that are recognized by the LRP shall meet the requirements in R 324.1406 to R 324.1422 or shall be clearly qualified to the nature of the deficiency. Qualification of data is required for, but not limited to, the following items:
(a) Deviations in the sampling procedures or the condition of the sample upon receipt.
(b) Holding time exceedence.
(c) Reported results that are not bracketed by the calibration standards.
(d) Results associated with quality control failures with the sample or the sample batch.
(3) Each report issued by the laboratory shall contain the following:
(a) The name and recognition ID number of the laboratory.
(b) Contact information and an address for the laboratory.
(c) A unique identification of the sample report.
(d) The methods that were used for analysis.
(e) Clear indication of the results obtained, including the units of measure and the RL.
(f) Identification of the sampling point.
(g) Identification of the sampler or the sampling organization.
(h) The date and time of sampling.
(i) Date and time of receipt by the laboratory.
(j) Date and time of analysis.
(k) The ID of the person or persons performing the analysis.
(l) The signature of the person responsible for the quality of the results.
(4) The laboratory shall submit final reports to the department in a format acceptable to the department or the end data user.
(5) Reports issued by a laboratory for work governed by a formal contract shall meet the contractual requirements.
(6) The laboratory shall provide qualification to all amended reports. The qualification shall contain all of the following information:
(a) Reason for the amendment.
(b) Date the first report was issued.
(c) ID number of the original report.

(d) Clear identification of all amended data.
History: 2007 MR 23, Eff. Dec. 11, 2006.

R 324.1408 Laboratory Inspections.
Rule 1408. (1) Laboratories recognized by the program may be inspected during normal business hours with or without prior notice.
(2) A full or partial inspection may be conducted for the following circumstances including, but not limited to the following:
(a) Initial recognition.
(b) Renewal of recognition.
(c) Addition of recognized parameters.
(d) Customer or data user complaints.
(e) Data discrepancies.
(f) Award of a state contract.
(3) A laboratory inspection may be judged unacceptable if a noncompliance in
R 324.1409 is discovered during the laboratory inspection. An unacceptable laboratory inspection is grounds for the denial or the termination of recognition and the forfeiture of fees already paid.
(4) After the acceptable completion of an inspection, the LRP shall issue an inspection report listing the laboratory deficiencies that require corrective action.
(5) The laboratory shall submit an acceptable corrective action plan for the deficiencies noted in the inspection report.
(6) The laboratory corrective action plan shall contain the steps necessary for the laboratory to meet the minimum requirements of the regulations and give the date of completion for each item.
History: 2007 MR 23, Eff. Dec. 11, 2006.

R 324.1409 Criteria for maintaining status in the program.
Rule 1409. Failure to comply with subdivisions (a) to (k) of this rule is grounds for the denial or the termination of recognition and the forfeiture of fees already paid. To maintain an acceptable status in the program the laboratory shall do the following:
(a) Notify the LRP in writing, for all parameters that fail to meet the minimum requirements of the program during the recognition period.
(b) Notify the LRP in writing of the following changes in personnel:
(i) Laboratory supervisors.
(ii) Principal analysts.
(iii) Laboratory contact.
(iv) Responsible person of record.
(v) Laboratory owner or ownership.
(c) Meet or exceed the PTS requirements in R 324.1406. For each parameter not meeting these requirements the laboratory shall provide notification as specified in subdivision (a) of this rule.
(d) Perform MDL studies as required in R 324.1421(2).
(e) Review and update SOPs as required in R 324.1416 (3) (c).
(f) Not falsify any laboratory records or reported data.
(g) Not withhold data or reports without proper cause.
(h) Avoid conflicts of interest.
(i) Allow the LRP access to all laboratory facilities and records.
(j) Report results as required in R 324.1407 (3).
(k) Implement and maintain corrective actions detailed in the corrective action plan submitted by the laboratory to the LRP.
History: 2007 MR 23, Eff. Dec. 11, 2006.

Rule 324.1410 LRP posting of laboratories.
Rule 1410. Recognized laboratories shall be posted to the department's web site, with the following information:
(a) Laboratory name.
(b) Laboratory address.
(c) Contact information.
(d) Scope of recognition.
(e) Date recognition status is granted.

(f) Date recognition status expires.
History: 2007 MR 23, Eff. Dec. 11, 2006.

R 324.1411 Quality Systems.
Rule 1411. The laboratory shall have in place before initial application is made and during the recognition period, a quality system that documents the laboratory activities necessary to produce quality data. The laboratory's quality system shall document the following:
(a) The staffing requirements for the laboratory. At a minimum these records shall include the following:
(i) A job description for each laboratory position that includes the training, experience, and the education necessary to perform the position functions. The education requirements are as follows:
(A) The laboratory director shall have a college degree in the sciences.
(B) Analysts should have a college degree in the sciences.
(C) Technicians shall have a high school diploma.
(D) Laboratory employees not meeting the criterion in subparagraph (A) to (C) of this paragraph shall have documented analytical training and experience pertinent to their job function.
(ii) Experience and training documentation commensurate with the employee's position.
(iii) Ethic and data integrity training commensurate with the employee's position.
(iv) The staff necessary to adequately perform job duties without undue pressure.
(b) A building adequate for laboratory use. The building's interior and facilities shall have the following:
(i) Bench area for conducting analysis.
(ii) Sufficient lighting.
(iii) Climate control to maintain a suitable environment for analytical testing.
(iv) Fume hood space with adequate ventilation.
(v) A separation of areas of incapability, including the regulation of air flow to prevent contamination of adjoining areas.
(vi) Security and/or custody procedures to maintain the integrity of samples.
(vii) Facilities and procedures for the proper storage and disposal of chemical wastes.
(c) The equipment and supplies necessary to perform the recognized tests on-site. The laboratory shall maintain analytical instruments and major pieces of equipment in good working order and maintain documentation for the following:
(i) Service contracts with outside vendors that include provisions for preventative maintenance visits. Preventative maintenance shall be performed not less than 1 time per 12-month period for each analytical instrument.
(ii) Internal maintenance protocols, when used in conjunction with, or as an alternative to paragraph (i) of this subdivision. Internal maintenance protocols shall include the following:
(A) A list of preventive maintenance to be performed that include all procedures prescribed in the manufacturer's owner or service manual.
(B) A schedule for preventive maintenance procedures.
(C) A reference to where specific maintenance procedures are located.
(iii) Preventive maintenance performed that includes routine cleanings, replacement of consumable parts, method and manufacturer prescribed performance checks, and other procedures referenced in the manufacturer's owner or service manual.
(iv) Non-routine maintenance performed in response to instrument breakdown or poor analytical performance.
(d) A QAM that documents or references the location of the policies and procedures necessary to comply with R 324.1412 to R 324.1422. The QAM shall contain all of the following:
(i) A title page with all of the following:
(A) The title of the document.
(B) The name, address, and phone number of the laboratory.
(C) The revision number.
(D) The date of issue and the effective date.
(E) The signature of approval from a responsible laboratory person.
(ii) A table of contents that identifies where items are contained in the QAM by section or page number.
(iii) A statement by upper management of the laboratory's commitment to quality.
(iv) An organizational chart that shows the organizational relationship of all staff and lines of authority.
(v) An identification of the responsible person or persons of record. This person or persons shall sign all test reports issued.
(vi) An identification of the laboratory contact person. This person shall be high-ranking on the organizational chart in

either management or quality assurance.
(vii) A signature and initial record for all employees including the following:
(A) The employee's title or position.
(B) The date of the signature.
(viii) Policies for avoidance of conflicts of interest.
(ix) Policies on resolving customer complaints that include the following:
(A) What constitutes a customer complaint.
(B) How customer complaints and resolutions are documented.
History: 2007 MR 23, Eff. Dec. 11, 2006.

R 324.1412 Subcontracting.
Rule 1412. (1) Laboratories shall notify the LRP in advance and receive approval before subcontracting to any laboratory that does not have recognition status for the analysis to be subcontracted. Documentation of this notification and approval shall be maintained by the laboratory.
(2) The laboratory that issues the report to the department shall verify that all reporting requirements in R 324.1407 are met, including both of the following:
(a) Documenting the recognition status of each parameter reported for the primary and all subcontract laboratories.
(b) Labeling reported results with the analyzing laboratory's recognition ID number.
History: 2007 MR 23, Eff. Dec. 11, 2006.

R 324.1413 Reference Materials.
Rule 1413. Reference materials, standards, and reagents used by the laboratory shall satisfy all of the following requirements:
(a) Traceable records shall be maintained, including all certificates of accuracy.
(b) Be dated and initialed upon receipt and opening.
(c) Meet or exceed methodology defined quality.
(d) Have a manufacturer or laboratory assigned expiration date. Standard and reagent holding times shall not exceed those specified in the reference methodology. If not specified by the reference methodology, then the following apply:
(i) Liquid standards or reagents shall have a maximum expiration date of 1 year from the opening date.
(ii) Standard or reagents shall have a maximum expiration date of 1 year from the date of preparation, not to exceed the expiration date of the parent material.
(iii) Neat compounds shall be replaced if a problem with quality is identified or upon the manufacturer's expiration date.
(e) Be analytical grade quality or equivalent.
(f) Have preparation records for all standards and reagents used for analytical testing that include all of the following:
(i) The date of preparation.
(ii) The analyst's initials.
(iii) The lot number of reagents used.
(iv) The amount of all regents used.
(v) The volume of the solution made.
(vi) The final concentration.
(vii) The expiration date.
(g) Be prepared in glassware or other vessels that are suitable for laboratory use. Vessels used for the preparation of standards and reagents shall have both of the following:
(i) Documented washing procedures that meet the requirements of the method.
(ii) Storage procedures for the prevention of contamination.
(h) Be prepared with reagent grade water that meets the requirements of the test method.
History: 2007 MR 23, Eff. Dec. 11, 2006.

R 324.1414 Support Equipment.
Rule 1414. (1) Balance calibration verification weights shall be traceable and meet the accuracy requirements for the applications for which the balance is used. In addition, the weights shall be replaced or cleaned and recertified if there is evidence of damage or corrosion, or not less than every 5 years.
(2) Laboratories shall verify the calibration of each balance used for analytical purposes on a monthly basis. The calibration verification shall be documented and use not less than 3 weights that bracket the balance use range.
(3) Thermometers shall be incremented to meet the application's accuracy requirements. Thermometers shall not be used if there is separation in the liquid or evidence of damage. Thermometers shall be the following:

(a) Calibrated with a traceable thermometer on an annual basis at the point-of-use temperature or over the thermometer's use range. The calibration records shall document all of the following:
(i) The date of calibration.
(ii) The analyst initials.
(iii) The serial number of the reference and laboratory thermometer.
(iv) The temperature reading of the reference and laboratory thermometer.
(v) The correction factor for the reference thermometer.
(vi) The correction factor for the laboratory thermometer.
(b) Labeled with the date, the correction factor and the initials of the analyst. For applications where a thermometer tag is not ideal, the thermometer correction factor may be posted on the piece of equipment that requires temperature monitoring. Correction factors shall also be documented in the log where temperatures are recorded.
(4) All volumetric measuring devices used in critical applications, for example, standard and reagent preparation and sample measurement, except "Class A" glassware, shall be verified before initial use to be accurate within 2.5%. Results shall be documented.
(5) Mechanical measuring devices used in critical applications, for example, standard and reagent preparation and sample measurement, shall be verified to be within 2.5% on a monthly basis. Results shall be documented.
(6) The laboratory shall use standards from an external source to verify spectrophotometer wavelengths on an annual basis. These checks shall verify the wavelengths of use or cover the use range.
History: 2007 MR 23, Eff. Dec. 11, 2006.

R 324.1415 Traceability of results.
Rule 1415. All sample results shall be linked to the individual instrumental run and analytical batch as applicable. Analytical batches shall provide traceability for the following:
(a) The standards used.
(b) The date of calibration.
(c) Instrument calibration date and acceptability documentation.
(d) Date and time of each analytical run.
(e) The preparation batch if applicable.
History: 2007 MR 23, Eff. Dec. 11, 2006.

R 324.1416 Records and document control.
Rule 1416. (1) The laboratory shall have documented procedures for record retention and maintenance, including the following:
(a) Requirements that all handwritten and printed records are recorded in permanent ink.
(b) Requirements that any change to handwritten or printed data consists of a single line strikethrough that does not obliterate the original data. The person making the change shall date and initial the correction. Similar techniques shall be applied to electronic data.
(c) Requirements for the length of retention. The retention time shall meet all contractual requirements and not be less than 5 years in length.
(d) Identification of records necessary to recreate reports and maintain traceability of results. These shall include, but are not limited to, the following:
(i) Raw data.
(ii) Calibration records.
(iii) Hand calculations.
(iv) Processed data.
(v) A printout or electronic copy of final reports issued.
(vi) Standard and reagent certificates of accuracy.
(vii) Preparation records for standards and reagents.
(viii) Maintenance records.
(ix) Chain of custodies or sample login information form.
(e) Storage and maintenance procedures that include provisions for the protection of records including the following:
(i) Backup protocol for electronic data.
(ii) Procedures for the avoidance of damage, deterioration, and theft.
(2) Procedural documents used by the laboratory shall have the following:
(a) A unique identification.
(b) Defined procedures to control the implementation and decommissioning of documents.

(c) A procedure to store not less than 1 copy of each laboratory document revision issued.
(3) The laboratory shall have documented SOPs for all method and critical laboratory applications. All of the following apply:
(a) The laboratory staff shall have direct access to the SOPs used to perform their job duties.
(b) A master copy of each issued SOP shall be kept on file with the approval signature.
(c) SOPs and other quality systems documentation shall be reviewed and updated on an annual basis. This review shall be documented.
(d) All laboratory SOPs shall be uniquely identified by number or title and shall contain all the following:
(i) A date of issue and the effective date.
(ii) A revision number.
(iii) An approval signature.
(e) The SOPs shall be comprehensive enough to allow a person experienced in the subject matter to perform the stated procedures.
History: 2007 MR 23, Eff. Dec. 11, 2006.

R 324.1417 Sample collection, receipt, and storage.
Rule 1417. (1) The laboratory shall verify that the sampling collection form or the chain of custody is completed and includes the following information:
(a) Identification of the sampling site.
(b) The date and time of collection.
(c) The laboratory analysis required.
(d) The sample collector's name and organization.
(e) The initials of the sampler.
(f) The preservation type.
(2) The laboratory shall verify that the data provided on the chain of custody for sample collection and measurements performed in the field is plausible.
(3) The laboratory shall do all the following during the sample receipt and login process:
(a) Record the date and time of sample receipt.
(b) Document the person receiving the sample.
(c) Check each sample for deficiencies that occurred during sample collection and transport. This check shall include, but is not limited to the following:
(i) Checking and documenting that thermal preservation requirements are met.
(ii) Checking that samples have been properly preserved before analysis.
(iii) Checking that the containers used for sampling meet the requirements for the requested analysis.
(iv) Checking that the proper amount of headspace, or lack of, is in each sample container received.
(v) Checking the time of sample collection for holding time constraints.
(vi) Checking for evidence of tampering or damage.
(d) The laboratory shall check for and document any discrepancies in sample condition at the time of receipt. If a discrepancy is noted the laboratory shall reject the sample or flag the results on the final report to the nature of the problem.
(e) The laboratory shall assign each sample with a unique identification number that shall link the sample collection data, the sample login data, the preparation data, analytical data, and the final report.
(4) The laboratory's sample storage and handling procedures shall specify the following:
(a) Samples shall not be stored in the same refrigerator/freezer with, or in close proximity to standards.
(b) All samples shall be clearly labeled with a unique identification number, the preservation type, and analysis required.
(c) Samples that require thermal preservation shall be stored at 1-6°C or as specified by the methodology.
(d) Samples shall be stored in a manner where access is limited.
(e) The laboratory shall be able to track a sample's analytical progression. Internal chain-of-custody practices shall be used when specified by contract or when the sample is collected for legal purposes.
(f) Sample storage areas shall be free of contaminants.
History: 2007 MR 23, Eff. Dec. 11, 2006.

R 324.1418 Quality control.
Rule 1418. The laboratory shall perform and comply with all quality control criteria specified in the individual test method and the regulatory program. If absent from the test method, the laboratory shall perform and comply with the following quality control criteria:

(a) The laboratory shall have procedures for instrumentation calibration and calibration acceptance. The laboratory shall do all of the following:
(i) Follow manufacturer prescribed warm-up procedures before calibration standards are run.
(ii) Make calibration standards and blanks in the same preservation matrix as samples.
(iii) Derive calibration curves and response factors from not less than 3 calibration points. A range factor of 50 or more requires 4 calibration points. A range factor of 100 or more requires 5 calibration points.
(iv) Ensure the lowest calibration standard has a signal-to-noise ratio of not less than 2.5 to 1.
(v) Ensure that reported results are bracketed by the calibration standards or the results are properly qualified.
(vi) The laboratory shall develop and apply acceptance criteria for calibration coefficients and response factors.
(b) The laboratory shall document and apply the following quality control criteria for analytical batches:
(i) Calibration curves shall be verified by running a standard at a mid-curve concentration level. Acceptability shall be checked against laboratory derived or regulatory acceptance limits and the batch rejected or stopped in the case of failure.
(ii) Second source QCS shall be prepared from a source different than the calibration standards. Second source QCS shall be run with each new calibration. Acceptability shall be checked against laboratory derived or regulatory acceptance limits and the batch rejected or stopped in the case of failure.
(iii) Required field or trip blanks shall be run when the sample result is positive. When the results of trip or field blanks are positive for the same analytes as the sample, they shall be reported to the client, or the sample results shall be rejected or qualified.
(iv) Method blanks shall be analyzed with each analytical batch. If the blank value for any target analyte exceeds the laboratories lower reporting limit for that analyte, then all data shall be rejected, the samples rerun, or the results shall be qualified.
(v) Duplicate samples or MS duplicates shall be analyzed with each analytical batch. The relative percent difference for each analyte shall be calculated between the replicate runs. Acceptability shall be checked against laboratory derived acceptance limits. Sample analytes that fail acceptability requirements shall be rerun or the results shall be qualified. For calculation and reporting purposes, the laboratory shall distinguish between the sample and the duplicate analysis.
(vi) MS samples shall be analyzed with each analytical batch. The percent recovery for each analyte shall be calculated and compared to laboratory derived control limits. Samples that fail MS recovery limits shall be rerun or may be qualified if the failure is attributed to the sample matrix and not instrument related. The laboratory shall spike the analyte(s) specified in the reference method, or the specific target analyte(s) if known at the time of analysis. The laboratory shall determine the number of spiking compounds in accordance with the following:
(A) Ten to 12 analytes, spike at least 10.
(B) Thirteen to 20 analytes, spike at least 80%.
(C) Over 20 analytes, spike at least 16.
(vii) All reported results shall be bracketed by acceptable laboratory standards.
History: 2007 MR 23, Eff. Dec. 11, 2006.

R 324.1419 Data processing and review.
Rule 1419. The laboratory shall follow procedures specified in the test method for data processing. When not specified by the test method the laboratory may use widely accepted data processing techniques. The laboratory shall ensure the following:
(a) All standards and samples contained within a batch shall be processed with the same techniques and integration parameters. The laboratory shall retain the software settings used for all processing and reprocessing of analytical batches.
(b) All raw data corrections are dated and initialed by the correcting person.
(c) All manually drawn baselines are dated and initialed by the correcting person.
(d) The correct number of significant figures is reported for each result. Report the number of significant figures as determined from the least accurate step in the analytical process.
(e) The laboratory shall conduct second person reviews for all transcriptions, data entry, and manual calculations. Documentation of this review shall include the date the review was conducted and the signature or initials of the second person reviewer.
(f) The laboratory shall conduct quality assessment reviews before final reports are released. These quality assessment reviews shall include, but are not limited, to the following:
(i) A review of the login documentation to verify it corresponds with analytical data reported.
(ii) A review to ensure that all required data qualifications are present.
History: 2007 MR 23, Eff. Dec. 11, 2006.

R 324.1420 Initial demonstrations of capability.
Rule 1420. When available the laboratory shall follow procedures specified by the test method for IDOC. The laboratory shall perform, document, and approve IDOC before an analyst proceeds with sample analysis. The laboratory shall have an acceptable IDOC on file for each parameter analyzed. IDOC documentation shall include in summary form or readily available records all of the following:
(a) The sample matrix, date of analysis, analyte name, analyst, method, instrument, and the I.D. of the standard used.
(b) The precision and accuracy requirements, the spiked value, the results of the replicate runs, the precision obtained (%RSD), the mean concentration, and the mean accuracy.
(c) Data from the 4 consecutive runs used in the generation of IDOC data.
(d) Standard preparation records that document both of the following:
(i) The standards were prepared from a source independent from the calibration standards.
(ii) Aliquots of the standard used were prepared independently.
History: 2007 MR 23, Eff. Dec. 11, 2006.

R 324.1421 Method detection limits; adoption by reference.
Rule 1421. (1) MDL analysis shall be conducted in accordance with the Code of Federal Regulations, Title 40 Protection of the Environment, Appendix B to Part 136—Definition and Procedure for the Determination of the Method Detection Limit—Revision 1.11. [49 FR 43430, Oct. 26, 1984; 50 FR 694, 696, Jan. 4, 1985, as amended at 51 FR 23703, June 30, 1986]. A copy may be obtained from the U.S. Government Printing Office, 732 N Capital Street NW, Washington DC 20401, or the document is available for inspection at the Department of Environmental Quality, Laboratory Services Section, 3350 N. MLK Blvd., Lansing, MI 48909.
(2) The laboratory shall perform MDL studies not less than once per year for each parameter or when a modification or repair that affects instrument sensitivity is made. MDL documentation shall include the following in summary form or readily available records:
(a) The matrix, date of analysis, analyte name, analyst, method, instrument, and the identification of the standard used.
(b) The spiked value, the results of the replicate runs, the standard deviation, the mean percent recovery, the student-t value used, the MDL obtained, and the laboratory's reporting limit.
History: 2007 MR 23, Eff. Dec. 11, 2006.

R 324.1422 Reporting Limits.
Rule 1422. (1) The laboratory lower RL shall be all of the following:
(a) Equal to or higher than the lowest calibration standard or calibration verification standard.
(b) Higher than the laboratory calculated MDL.
(c) Adjusted to compensate for dilution factors, moisture content, and sample volume.
(2) The laboratory upper reporting limit shall be the concentration of the highest calibration standard or the highest calibration verification standard. Samples that exceed the upper reporting limit shall be diluted or qualified
History: 2007 MR 23, Eff. Dec. 11, 2006.

DEPARTMENT OF ENVIRONMENTAL QUALITY

ENVIRONMENTAL ASSISTANCE DIVISION

CLEAN CORPORATE CITIZEN PROGRAM

R 324.1501 Definitions.
Rule 1501.As used in this part:
(a) "Applicable federal environmental requirements" means the Federal Water Pollution Control Act, 33 USC 1251 et seq., the Clean Air Act, 42 USC 7401 et seq., the Resource Conservation and Recovery Act, 42 USC 6901 et seq., and the Comprehensive Environmental Response, Compensation, and Liability Act, 42 USC 9601 et seq.
(b)"Applicable state environmental requirements" means article II and chapters 1 and 3 of article III of 1994 PA 451, MCL 324.3101 to 324.21551, 324.30101 to 324.36507, and 324.60101 to 324.64111, 1976 PA 399, MCL 325.1001 to 325.1023, parts 135 and 138 of 1978 PA 368, MCL 333.13501 to 333.13536 and 333.13801 to 333.13831, the administrative rules promulgated under article II and chapters 1 and 3 of article III of 1994 PA 451, 1976 PA 399, parts 135 and 138 of 1978 PA 368, and permits, orders, and other legally binding documents issued under article II and

chapters 1 and 3 of article III, 1976 PA 399, and parts 135 and 138 of 1978 PA 368.
(c)"Clean corporate citizen" means a person who operates an establishment that has demonstrated environmental stewardship and a strong environmental ethic by meeting the criteria in this part and who has been designated a clean corporate citizen by the department.
(d) "Department" means the department of environmental quality.
(e) "Director" means the director of the department of environmental quality or his or her designee.
(f) "Environmental management system" means the part of an overall management system that addresses environmental concerns through the allocation of resources, assignment of responsibilities, and ongoing evaluation of practices, procedures, and processes to achieve sound environmental performance.
(g)"Environmental media" means the air, water, or land medium that is impacted, or would have been impacted, by a waste.
(h)"Establishment" means any of the following that operates in accordance with or under the jurisdiction of applicable environmental requirements:
(i) A stationary source.
(ii)A location.
(iii)A public institution.
(iv)A municipal, commercial, industrial, or other business facility.
(i) "ISO 14001:2004" means the standard adopted by the international organization for standardization to prescribe uniform requirements for the purpose of certification or registration of an environmental management system.The provisions of the ISO 14001:2004 standard are adopted by reference as part of these rules.The ISO 14001:2004 standard is available for inspection at the office of the Department of Environmental Quality, Environmental Science and Services Division, 525 West Allegan, Lansing, Michigan 48933.Copies of the ISO 14001:2004 standard are available from the American National Standards Institute, 25 West 43rd Street, 4th floor, New York, New York 10036, for $82.00, the cost at the time of the adoption of these rules.
(j)"Pollution prevention" means eliminating or minimizing the initial generation of waste at the source or utilizing environmentally sound on-site and off-site reuse or recycling.Waste treatment, release, or disposal is not considered pollution prevention.
(k)"Responsible official" means an individual, who has the authority to sign and certify to, on behalf of an applicant for a clean corporate citizen designation, the truth, accuracy, and completeness of the application and annual report.
(l)"Supplemental environmental project" or "SEP" means an environmentally beneficial project that an alleged violator agrees to undertake in settlement of an enforcement action, but which the alleged violator is not otherwise legally required to perform.
(m)"Violation notice" means any written notice or formal enforcement action by the department in response to a violation of an applicable state environmental requirement.Voluntary disclosures made under part 148 of 1994 PA 451, do not constitute a violation notice.
(n)"Waste" means all environmental pollutants, wastes, discharges, and emissions, regardless of how they are regulated and regardless of whether they are released to the general environment or the workplace environment.
History:2000 MR 3, Eff. Mar. 24, 2000; 2006 MR 22, Eff. Dec. 1, 2006.

R 324.1502
Source: 1998-2000 AACS.

R 324.1503 Applicability.
Rule 1503.(1)This part applies to a person who operates an establishment in Michigan and who voluntarily seeks a clean corporate citizen designation.
(2)This part does not apply to an establishment under any of the following conditions:
(a)Has been convicted of a criminal violation of applicable state environmental requirements within a 10-year period before filing the initial clean corporate citizen application.
(b)Has been assessed by a court of appropriate jurisdiction a civil fine, penalty, or damages of $10,000.00 or more for violation of applicable state environmental requirements within a 3-year period before filing the initial clean corporate citizen application.
(c)Has been found, by a court of appropriate jurisdiction, to have been responsible for an illegal action that caused substantial endangerment to the public health, safety, or welfare or to the environment within a 10-year period before filing the initial clean corporate citizen application.
(d)Has been assessed by the department or paid through entry of a judicial consent decree or administrative consent order, a monetary fine, penalty, or damages of $25,000.00 or more**,** including the amount of any supplemental

environmental project or projects used to offset a monetary fine or penalty, for a violation of applicable state environmental requirements that occurred within a 3-year period before filing the initial clean corporate citizen application.
History:2000 MR 3, Eff. Mar. 24, 2000; 2006 MR 22, Eff. Dec. 1, 2006.

R 324.1504 Clean corporate citizen criteria.
Rule 1504.To qualify for and maintain a designation as a clean corporate citizen for a single establishment, a person shall operate the establishment in Michigan and meet the criteria in R 324.1503, R 324.1505, R 324.1506, R 324.1507**,** and R 324.1508.
History:2000 MR 3, Eff. Mar. 24, 2000; 2006 MR 1, Eff. Dec. 1, 2006.

R 324.1505 Environmental management system.
Rule 1505.(1)A clean corporate citizen shall have in place, and operate the clean corporate citizen's establishment in accordance with, an environmental management system which systematically addresses environmental concerns, environmental improvements, and which is integrated into the clean corporate citizen's overall management structure as specified in this rule.
(2) A clean corporate citizen meets the environmental management system requirements by complying with any of the following provisions:
(a) Registration or certification under an environmental management standard, such as ISO 14001:2004, that is approved by the director.
(b) Development**,** implementation**,** and maintenance of a written environmental management system consistent with the requirements of the ISO 14001:2004 standard, and which is appropriate to the nature, scale, and potential environmental impact of the operation.
(c)Adoption and maintenance of an environmental management system, approved by the director, applicable to a specific group or classification of establishments.An environmental management system developed in accordance with this rule shall be consistent with the requirements of the ISO 14001:2004 standard, and be appropriate to the nature, scale, and potential environmental impact of the operation.
History:2000 MR 3, Eff. Mar. 24, 2000; 2006 MR 22, Eff. Dec. 1, 2006.

R 324.1506 Pollution prevention.
Rule 1506.(1)A clean corporate citizen shall develop and implement an effective pollution prevention program as specified in this rule.
(2)A clean corporate citizen meets the pollution prevention program requirements by complying with both of the following provisions:
(a)Adopting, in the form of a written policy, the clean corporate citizen's philosophy of pollution prevention that promotes all of the following:
(i)The elimination or reduction of waste at the source of generation.
(ii)The reuse of waste, including the purchasing of recycled materials.
(iii)Environmentally sound on-site and off-site recycling.
(b)Establishing and maintaining an establishment-specific pollution prevention program under which the clean corporate citizen shall do all of the following:
(i)Adopt and post a pollution prevention policy or equivalent, as required in subdivision (a) of this subrule, that is signed by a responsible official.
(ii)Conduct periodic pollution prevention assessments that identify opportunities for eliminating waste at the source, reuse, and recycling.
(iii)Establish pollution prevention goals that specify the environmental media and types of pollution to be prevented or reduced, implementation activities, and projected time frames.
(iv)Record and maintain reports to demonstrate progress on pollution prevention goal implementation.
(v)Encourage efforts to exchange pollution prevention technologies, such as any of the following:
(A)Attending or sponsoring workshops.
(B)Developing case studies.
(C)Establishing pollution prevention supplier networks.
(D)Providing the department with pollution prevention information for possible publication and dissemination.
(3)A clean corporate citizen may satisfy the provisions of subrule (2)(b) of this rule through formal participation and by being a member in good standing in a recognized department pollution prevention program.
History:2000 MR 3, Eff. Mar. 24, 2000; 2006 MR 22, Eff. Dec. 1, 2006.

R 324.1507 Environmental compliance.
Rule 1507.(1)A clean corporate citizen shall comply with the applicable state environmental requirements and applicable federal environmental requirements as specified in this rule.
(2)To meet the environmental compliance requirement, a clean corporate citizen shall satisfy all of the following requirements:
(a)Provide to the department, as part of the clean corporate citizen application, a statement signed by a responsible official that he or she has reviewed the clean corporate citizen's compliance record and that, to the best of his or her knowledge, the clean corporate citizen is in compliance with all applicable state environmental requirements and applicable federal environmental requirements and has no outstanding unresolved past or current violations that have not been corrected or, in the case of renewal, resolved by the clean corporate citizen's adherence to a compliance schedule acceptable to the department to abate the violations.
(b)Have addressed any violation cited in a violation notice by resolving the violation, making a showing to the department that the violation did not occur, or in the case of renewal, adherence to a compliance schedule acceptable to the department to correct any violation specified in a violation notice issued by the department.
(c)Not have been found by the department to be in significant violation of environmental requirements established by a local unit of government.
(d)Not have been found by the department to be in significant violation of applicable federal environmental requirements established by the United States environmental protection agency.
(3)In the case of a change of ownership, the director may consider the environmental record of the new owner in determining whether the criteria in this rule are met.
History:2000 MR 3, Eff. Mar. 24, 2000; 2006 MR 22, Eff. Dec. 1, 2006.

R 324.1508 Procedures for application.
Rule 1508.(1)A person operating an establishment in Michigan may apply for a clean corporate citizen designation.An applicant for a clean corporate citizen designation shall follow the procedures in this rule.
(2)Before submitting an application to the department, the applicant shall provide for a public review of the application and related documentation for a period of not less than 30 days.Public review shall, at a minimum, include posting a notice in a local newspaper of the applicant's intent to file the clean corporate citizen application and of the availability of the application and related documentation for public review.The application and related documentation shall be made available at a local public library or other public building for not less than 30 days.The public notice shall allow for comments to be made to the applicant or the department.The documentation provided for public review shall include all of the following information:
(a)A detailed summary for each element of the environmental management system that demonstrates achievement of the criteria in R 324.1505.
(b)A copy of the applicant's pollution prevention policy or equivalent and supporting information that demonstrates achievement of the pollution prevention criteria in
R 324.1506.
(c)A copy of the signed statement of compliance in R 324.1507(2)(a).
(3)The applicant shall notify the department of its intention to submit an application for clean corporate citizen designation not less than 30 days before the end of the public review period.
(4)After the 30-day public review period, an applicant shall submit the application for a clean corporate citizen designation to the department, on a form provided by the department, together with the supporting documentation that meets the requirements of this rule.
(5)The application and supporting documentation shall include all of the following:
(a)A checklist of the documentation that has been assembled and made available for public review.
(b)A signed statement by the responsible official that the applicant meets the criteria in R 324.1503, R 324.1504, R 324.1505, R 324.1506, and R 324.1507.
(c)A detailed summary for each element of the environmental management system and demonstration of achievement of the environmental management system requirements in R 324.1505.
(d)The pollution prevention policy or equivalent and supporting information to demonstrate achievement of the pollution prevention requirements under R 324.1506.
(e)A combined list of the significant goals, objectives, and targets that are set in the environmental management system and the pollution prevention program.
(f)The certification of compliance ~~as~~ required by R 324.1507(2)(a).
(g)A listing of any criminal convictions or any civil fines, penalties, or damages assessed relative to applicable federal

environmental requirements within a 3-year period before filing the initial clean corporate citizen application.
(h)A summary of public comment received by the applicant and the department during the public review period and the applicant's response to the public comments received.
(6)The department shall complete its initial review of the clean corporate citizen's application within 14 days of receipt of the application.
(7)The department shall publish, in the department calendar, a notice of receipt of the application and related documentation and of the availability of the application and related documentation for public review and comment not less than 30 days before the department makes a decision on the application.
(8)Within 60 days of receipt of a complete application, unless an extension of time is requested by the applicant, the department shall consider public comments, determine whether the criteria of these rules have been met, and notify the applicant, in writing, of the clean corporate citizen designation approval or disapproval.
(9)There is no formal appeal of the director's designation decision.
(10)A person operating an establishment in Michigan may reapply for clean corporate citizen designation at any time, in accordance with the applicability requirements in
R 324.1503.
History:2000 MR 3, Eff. Mar. 24, 2000; 2006 MR 22, Eff. Dec. 1, 2006.

R 324.1509 Procedures for retaining or terminating clean corporate citizen designation.
Rule 1509.(1)To retain a clean corporate citizen designation, a clean corporate citizen shall submit a renewal request, supporting information, and a certification that the clean corporate citizen is currently achieving the criteria in R 324.1505, R 324.1506, and R 324.1507 as follows:
(a)For a clean corporate citizen that is also certified under ISO 14001:2004, at least 30 days before the 3 year anniversary date of the current clean corporate citizen designation.
(b)For any other clean corporate citizen, at least 30 days before the 2 year anniversary date of the current clean corporate citizen designation.
(2)The supporting information specified in subrule (1) of this rule shall include an annual report summarizing the activities undertaken over the previous year to do all of the following and describing the status of the activities:
(a)Maintain and implement the environmental management system consistent with R 324.1505.
(b)Identify and implement pollution prevention activities consistent with R 324.1506.
(c)Set, revise, and implement goals, objectives, and targets, and the strategy the clean corporate citizen is employing to resolve any unmet goals, objectives, and targets in its environmental management system and pollution prevention program.
(3)A renewal request shall include a statement by the responsible official that the clean corporate citizen is in compliance with all applicable state environmental requirements and applicable federal environmental requirements, and has no outstanding unresolved violations, or is in compliance with a schedule acceptable to the department to correct any outstanding violations.
(4)The director shall terminate the clean corporate citizen designation if the director determines that any of the following provisions apply to the clean corporate citizen:
(a)The clean corporate citizen failed to maintain and implement an environmental management system as required under R 324.1505.
(b)The clean corporate citizen failed to maintain and implement a pollution prevention policy or equivalent and program consistent with the provisions of R 324.1506.
(c)The clean corporate citizen failed to meet the environmental compliance criteria of R 324.1507.
(d)If after the effective date of the current designation the clean corporate citizen:
(i)Has been convicted of a criminal violation of applicable state environmental requirements.
(ii)Has been assessed by a court of appropriate jurisdiction a civil fine, penalty, or damages of $10,000.00 or more for violation of applicable state environmental requirements.
(iii)Has been found by a court of appropriate jurisdiction to have been responsible for an illegal action that caused substantial endangerment to the public health, safety, or welfare or to the environment.
(iv)Was found by the director to have failed to promptly and adequately correct and resolve a serious violation of applicable state environmental requirements or applicable federal environmental requirements.
(v)Has been assessed by the department or paid through entry of a judicial consent decree or administrative consent order, a monetary fine, penalty or damages of $25,000 or more, including the amount of any supplemental environmental project or projects used to offset a monetary fine or penalty, for a violation of applicable state environmental requirements.
(5)The director shall advise a facility of his or her intent to terminate the clean corporate citizen designation not less than

30 days before terminating the designation.
(6)There is no formal appeal of the director's termination decision.
(7)A person operating an establishment in Michigan may reapply for clean corporate citizen designation at any time, in accordance with the applicability requirements in
R 324.1503.
History:2000 MR 3, Eff. Mar. 24, 2000; 2006 MR 22, Eff. Dec. 1, 2006.

R 324.1509a Annual reporting requirements.
Rule 1509a.(1)The clean corporate citizen shall submit an annual report not later than 30 days before the annual anniversary date of the current clean corporate designation, summarizing the activities undertaken over the past year to do the following:
(a)Identify and implement pollution prevention activities consistent with
R 324.1506.
(b)Set, revise, and implement goals, objectives, and targets, and the strategy the clean corporate citizen is employing to resolve any unmet goals, objectives, and targets in its environmental management system and pollution prevention programs.
(2)The annual report shall also include a statement by the responsible official that the clean corporate citizen is in compliance with all applicable state environmental requirements and applicable federal environmental requirements and has no outstanding unresolved violations, or is in compliance with a schedule acceptable to the department to correct any outstanding violations.
History: 2006 MR 22, Eff. Dec. 1, 2006.

R 324.1510
Source: 1998-2000 AACS.

R 324.1511
Source: 1998-2000 AACS.

WASTE MANAGEMENT DIVISION

PART 5. SPILLAGE OF OIL AND POLLUTION MATERIALS

R 324.2001
Source: 2001 AACS.

R 324.2002
Source: 2001 AACS.

R 324.2003
Source: 2001 AACS.

R 324.2004
Source: 2001 AACS.

R 324.2005
Source: 2001 AACS.

R 324.2006
Source: 2001 AACS.

R 324.2007
Source: 2001 AACS.

R 324.2008
Source: 2001 AACS.

R 324.2009

Source: 2001 AACS.

DEPARTMENT OF ENVIRONMENTAL QUALITY

SURFACE WATER QUALITY DIVISION

CLEAN MICHIGAN INITIATIVE NONPOINT SOURCE POLLUTION CONTROL GRANTS

R 324.8801
Source: 1998-2000 AACS.

R 324.8802
Source: 1998-2000 AACS.

R 324.8803
Source: 1998-2000 AACS.

R 324.8804
Source: 1998-2000 AACS.

R 324.8805
Source: 1998-2000 AACS.

R 324.8806
Source: 1998-2000 AACS.

R 324.8807
Source: 1998-2000 AACS.

R 324.8808
Source: 1998-2000 AACS.

R 324.8809
Source: 1998-2000 AACS.

R 324.8810
Source: 1998-2000 AACS.

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

SURFACE WATER QUALITY DIVISION

CLEAN WATER FUND

R 324.8901
Source: 1998-2000 AACS.

R 324.8902
Source: 1998-2000 AACS.

R 324.8903
Source: 1998-2000 AACS.

R 324.8904
Source: 1998-2000 AACS.

R 324.8905
Source: 1998-2000 AACS.

R 324.8906
Source: 1998-2000 AACS.

R 324.8907
Source: 1998-2000 AACS.

R 324.8908
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R 324.8909
Source: 1998-2000 AACS.

R 324.8910
Source: 1998-2000 AACS.

R 324.8911
Source: 1998-2000 AACS.

R 324.8912
Source: 1998-2000 AACS.

R 324.8913
Source: 1998-2000 AACS.

R 324.8914
Source: 1998-2000 AACS.

R 324.8915
Source: 2001 AACS.

R 324.8916
Source: 1998-2000 AACS.

R 324.8917
Source: 1998-2000 AACS.

R 324.8918
Source: 1998-2000 AACS.

R 324.8919
Source: 1998-2000 AACS.

R 324.8920
Source: 1998-2000 AACS.

DEPARTMENT OF ENVIRONMENTAL QUALITY

ENVIRONMENTAL ASSISTANCE DIVISION

SMALL BUSINESS POLLUTION PREVENTION ASSISTANCE LOAN

R 324.14501
Source: 1998-2000 AACS.

R 324.14502
Source: 1998-2000 AACS.

R 324.14503
Source: 1998-2000 AACS.

R 324.14504
Source: 1998-2000 AACS.

R 324.14505
Source: 1998-2000 AACS.

R 324.14506
Source: 1998-2000 AACS.

R 324.14507
Source: 1998-2000 AACS.

R 324.14508
Source: 1998-2000 AACS.

DEPARTMENT OF ENVIRONMENTAL QUALITY

STORAGE TANK DIVISION

MICHIGAN UNDERGROUND STORAGE TANK QUALIFIED CONSULTANTS AND CERTIFIED PROFESSIONALS

R 324.21501
Source: 1998-2000 AACS.

R 324.21502
Source: 1998-2000 AACS.

R 324.21503
Source: 1998-2000 AACS.

R 324.21504
Source: 1998-2000 AACS.

R 324.21505
Source: 1998-2000 AACS.

R 324.21506
Source: 1998-2000 AACS.

R 324.21507
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R 324.21508
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R 324.21509
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R 324.21510
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R 324.21511
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R 324.21512
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R 324.21513
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R 324.21514
Source: 1998-2000 AACS.

R 324.21515
Source: 1998-2000 AACS.

R 324.21516
Source: 1998-2000 AACS.

DEPARTMENT OF COMMUNITY HEALTH

BUREAU OF DISEASE CONTROL AND LABORATORY SERVICES

CONTROL OF COMMUNICABLE DISEASES

R 325.1
Source: 1998-2000 AACS.

R 325.2
Source: 1998-2000 AACS.

R 325.3
Source: 1998-2000 AACS.

R 325.4
Source: 1998-2000 AACS.

R 325.5
Source: 1998-2000 AACS.

R 325.6
Source: 1998-2000 AACS.

R 325.7
Source: 1998-2000 AACS.

R 325.8
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R 325.9
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R 325.10
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R 325.11
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R 325.12
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R 325.13
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R 325.14
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R 325.15
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R 325.41
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R 325.42
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R 325.45
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R 325.46
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R 325.47
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R 325.48
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R 325.50
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R 325.51
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R 325.57
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R 325.58
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R 325.59
Source: 1998-2000 AACS.

R 325.60
Source: 1981 AACS.

R 325.61
Source: 2005 AACS.

R 325.62
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R 325.63
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R 325.64
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R 325.65
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R 325.66
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R 325.67
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R 325.68

Source: 2005 AACS.

R 325.70
Source: 1997 AACS.

R 325.71
Source: 1997 AACS.

R 325.72
Source: 1997 AACS.

R 325.80
Source: 1997 AACS.

R 325.81
Source: 1997 AACS.

R 325.90
Source: 1997 AACS.

R 325.100
Source: 1997 AACS.

R 325.101
Source: 1997 AACS.

R 325.102
Source: 1997 AACS.

R 325.103
Source: 1997 AACS.

R 325.104
Source: 1997 AACS.

R 325.106
Source: 1997 AACS.

R 325.107
Source: 1997 AACS.

R 325.110
Source: 1997 AACS.

R 325.115
Source: 1997 AACS.

R 325.120
Source: 1997 AACS.

R 325.121
Source: 1997 AACS.

HEALTH LEGISLATION AND POLICY DEVELOPMENT

CHILDHOOD IMMUNIZATION REGISTRY

R 325.161
Source: 1997 AACS.

R 325.162
Source: 1997 AACS.

R 325.163
Source: 1997 AACS.

R 325.164
Source: 1997 AACS.

R 325.165
Source: 1997 AACS.

R 325.166
Source: 1997 AACS.

R 325.167
Source: 1997 AACS.

R 325.168
Source: 1997 AACS.

R 325.169
Source: 1997 AACS.

BUREAU OF INFECTIOUS DISEASE CONTROL

COMMUNICABLE AND RELATED DISEASES

R 325.171
Source: 1998-2000 AACS.

R 325.172
Source: 2005 AACS.

R 325.173
Source: 2005 AACS.

R 325.174
Source: 1993 AACS.

R 325.175
Source: 1993 AACS.

R 325.176 Immunizations required of children attending group programs or entering school.
Rule 6. (1) As used in this rule:
(a) "Certificate of immunization" means a medical, health department, school, or personal record which indicates the dates when each dose of a vaccine was given to an individual and which is certified by a health professional or local health department.
(b) "Exemption" means a temporary or permanent waiver of 1 or more of the specific immunization requirements for medical, religious, or other reasons.
(c) "Medical exemption" means a written statement from a physician that a vaccination is medically contraindicated for a particular child for a specified period of time.

(d) "Religious or other exemption" means a written statement which is signed by the parent, guardian, or person in loco parentis of a child, which certifies that immunization is in conflict with religious or other convictions of the signer, and which includes the name and date of birth of the child.
(e) "Vaccine" means an agent for immunization against an infection or disease caused by an infectious agent.
(2) A child who is 2 months through 3 months of age and who is registered in a program of group residence or care shall have received at least all of the following vaccines:
(a) One dose of any appropriate diphtheria vaccine.
(b) One dose of any appropriate tetanus vaccine.
(c) One dose of any appropriate pertussis vaccine.
(d) One dose of any appropriate poliovirus vaccine.
(e) One dose of any appropriate Haemophilus influenzae type b vaccine.
(f) One dose of any appropriate hepatitis B vaccine or a laboratory finding of hepatitis B immunity or disease satisfies this requirement.
(g) Effective January 1, 2007, 1 dose of any appropriate pneumococcal conjugate vaccine.
(3) A child who is 4 months through 5 months of age and who is registered in a program of group residence or care shall have received at least all of the following vaccines:
(a) Two doses of any appropriate diphtheria vaccine.
(b) Two doses of any appropriate tetanus vaccine.
(c) Two doses of any appropriate pertussis vaccine.
(d) Two doses of any appropriate poliovirus vaccine.
(e) Two doses of any appropriate Haemophilus influenzae type b vaccine.
(f) Two doses of any appropriate hepatitis B vaccine or a laboratory finding of hepatitis B immunity or disease satisfies this requirement.
(g) Effective January 1, 2007, 2 doses of any appropriate pneumococcal conjugate vaccine.
(4) A child who is 6 months through 14 months of age and who is registered in a program of group residence or care shall have received at least all of the following vaccines:
(a) Three doses of any appropriate diphtheria vaccine.
(b) Three doses of any appropriate tetanus vaccine.
(c) Three doses of any appropriate pertussis vaccine.
(d) Two doses of any appropriate poliovirus vaccine.
(e) Two doses of any appropriate Haemophilus influenzae type b vaccine.
(f) Two doses of any appropriate hepatitis B vaccine or a laboratory finding of hepatitis B immunity or disease satisfies this requirement.
(g) Effective January 1, 2007, pneumococcal conjugate vaccine as shown by either of the following:
(i) Three doses of any appropriate pneumococcal conjugate vaccine.
(ii) Receipt of an age appropriate complete series of any appropriate pneumococcal conjugate vaccine.
(5) A child who is 15 months through 23 months of age and who is registered in a program of group residence, care, or camping shall have received at least all of the following vaccines:
(a) Four doses of any appropriate diphtheria vaccine.
(b) Four doses of any appropriate tetanus vaccine.
(c) Four doses of any appropriate pertussis vaccine.
(d) Three doses of any appropriate poliovirus vaccine.
(e) Haemophilus Influenzae type B vaccine age as shown by either of the following:
(i) Receipt of 1 dose of any appropriate haemophilus influenzae type b vaccine at or after 15 months of age.
(ii) Receipt of a complete series of any appropriate haemophilus influenzae type b vaccine.
(f) One dose of any appropriate live measles vaccine at or after 12 months of age. A laboratory finding of measles immunity satisfies this requirement.
(g) One dose of any appropriate live mumps vaccine at or after 12 months of age. A laboratory finding of mumps immunity satisfies this requirement.
(h) One dose of any appropriate live rubella vaccine at or after 12 months of age. A laboratory finding of rubella immunity satisfies this requirement.
(i) Have evidence of hepatitis B immunity as shown by either 3 doses of any appropriate hepatitis B vaccine or a laboratory finding of hepatitis B immunity or disease satisfies this requirement.
(j) Have evidence of varicella immunity as shown by any of the following:
(i) One dose of any appropriate varicella vaccine at or after 12 months of age.
(ii) Laboratory evidence of varicella immunity.

(iii) A parent, guardian, person in loco parentis, or physician statement that the child has had varicella disease.
(k) Effective January 1, 2007, pneumococcal conjugate vaccine as shown by either of the following:
(i) Four doses of any appropriate pneumococcal conjugate vaccine.
(ii) Receipt of an age appropriate complete series of any appropriate pneumococcal conjugate vaccine.
(6) A child who is 24 months through 4 years of age and who is registered in a program of group residence, care, or camping shall have received at least all of the following vaccines:
(a) Four doses of any appropriate diphtheria vaccine.
(b) Four doses of any appropriate tetanus vaccine.
(c) Four doses of any appropriate pertussis vaccine.
(d) Three doses of any appropriate poliovirus vaccine.
(e) Haemophilus influenzae type b vaccine as shown by either of the following:
(i) Receipt of 1 dose of any appropriate Haemophilus influenzae type b vaccine at or after 15 months of age.
(ii) Receipt of a complete series of any appropriate Haemophilus influenzae type b vaccine.
(f) One dose of any appropriate live measles vaccine at or after 12 months of age. A laboratory finding of measles immunity satisfies this requirement.
(g) One dose of any appropriate live mumps vaccine at or after 12 months of age. A laboratory finding of mumps immunity satisfies this requirement.
(h) One dose of any appropriate live rubella vaccine at or after 12 months of age. A laboratory finding of rubella immunity satisfies this requirement.
(i) Three doses of any appropriate hepatitis B vaccine or a laboratory finding of hepatitis B immunity or disease satisfies this requirement.
(j) Have evidence of varicella immunity as shown by any of the following:
(i) One dose of any appropriate varicella vaccine at or after 12 months of age.
(ii) Laboratory evidence of varicella immunity.
(iii) A parent, guardian, person in loco parentis, or physician statement that the child has had varicella disease.
(k) Effective January 1, 2007, pneumococcal conjugate vaccine as shown by either of the following:
(i) Receipt of an age appropriate complete series of any appropriate pneumococcal conjugate vaccine.
(ii) Receipt of 1 dose of any appropriate pneumococcal conjugate vaccine at or after 24 months of age.
(7) A child who is 5 years of age and who is registered in a program of group residence, care, or camping shall have received at least all of the following vaccines:
(a) Four doses of any appropriate diphtheria vaccine.
(b) Four doses of any appropriate tetanus vaccine.
(c) Four doses of any appropriate pertussis vaccine.
(d) Three doses of any appropriate poliovirus vaccine.
(e) One dose of any appropriate live measles vaccine at or after 12 months of age. A laboratory finding of measles immunity satisfies this requirement.
(f) One dose of any appropriate live mumps vaccine at or after 12 months of age. A laboratory finding of mumps immunity satisfies this requirement.
(g) One dose of any appropriate live rubella vaccine at or after 12 months of age. A laboratory finding of rubella immunity satisfies this requirement.
(h) Three doses of any appropriate hepatitis B vaccine or a laboratory finding of hepatitis B immunity or disease satisfies this requirement.
(i) Have evidence of varicella immunity as shown by any of the following:
(i) One dose of any appropriate varicella vaccine at or after 12 months of age.
(ii) Laboratory evidence of varicella immunity.
(iii) A parent, guardian, person in loco parentis, or physician statement that the child has had varicella disease.
(8) A child who is 4 years through 6 years of age and who is entering school shall be in compliance with all of the following immunization requirements:
(a) Have received 4 doses of any appropriate diphtheria vaccine and, if a dose was not received on or after the fourth birthday, a booster dose at school entry.
(b) Have received 4 doses of any appropriate tetanus vaccine and, if a dose was not received on or after the fourth birthday, a booster dose at school entry.
(c) Have received 4 doses of any appropriate pertussis vaccine and, if a dose was not received on or after the fourth birthday, a booster dose at school entry.
(d) Have received 4 doses of any appropriate polio vaccine. If dose 3 was administered after the fourth birthday only 3 doses are required.

(e) Have evidence of measles immunity as shown by either of the following:
(i) Two doses of any appropriate live measles vaccine received after the first birthday, not less than 28 days apart.
(ii) Laboratory evidence of measles immunity.
(f) Have evidence of mumps immunity as shown by either of the following:
(i) Two doses of any appropriate live mumps vaccine received after the first birthday, not less than 28 days apart.
(ii) Laboratory evidence of mumps immunity.
(g) Have evidence of rubella immunity as shown by either of the following:
(i) Two doses of any appropriate live rubella vaccine received after the first birthday, at least 28 days apart.
(ii) Laboratory evidence of rubella immunity.
(h) Three doses of any appropriate hepatitis B vaccine or a laboratory finding of hepatitis B immunity or disease satisfies this requirement.
(I) Have evidence of varicella immunity as shown by any of the following:
(i) One dose of any appropriate live varicella vaccine at or after 12 months of age.
(ii) Laboratory evidence of varicella immunity.
(iii) A parent, guardian, person in loco parentis, or physician statement that the child has had varicella disease.
(9) A child who is 7 through 18 years of age and who is entering school or enrolled in grade 6, shall be in compliance with all of the following immunization requirements:
(a) Have received 4 doses of any appropriate diphtheria vaccine - 3 doses if the first dose was received on or after the seventh birthday and, if a dose was not received within the last 10 years, a booster dose.
(b) Have received 4 doses of any appropriate tetanus vaccine -- 3 doses if the first dose was received on or after the seventh birthday -- and, if a dose was not received within the last 10 years, a booster dose.
(c) Have received 3 doses of any appropriate poliovirus vaccine.
(d) Have evidence of measles immunity as shown by either of the following:
(i) Two doses of any appropriate live measles vaccine received after the first birthday, not less than 28 days apart.
(ii) Laboratory evidence of measles immunity.
(e) Have evidence of mumps immunity as shown by either of the following:
(i) Two doses of any appropriate live mumps vaccine received after the first birthday, not less than 28 days apart.
(ii) Laboratory evidence of mumps immunity.
(f) Have evidence of rubella immunity as shown by either of the following:
(i) Two doses of any appropriate live rubella vaccine received after the first birthday, not less than 28 days apart.
(ii) Laboratory evidence of rubella immunity.
(g) Receipt of a complete series of any appropriate hepatitis B vaccine or a laboratory finding of hepatitis b immunity or disease satisfies this requirement.
(h) Have evidence of varicella immunity as shown by any of the following:
(i) One dose of any appropriate live varicella vaccine at or after 12 months of age if the child received the vaccine before his or her thirteenth birthday.
(ii) Two doses of any appropriate live varicella vaccine, administered not less than 28 days apart, if the child received the first dose of vaccine at or after his or her thirteenth birthday.
(iii) Laboratory evidence of varicella immunity.
(iv) A parent, guardian, person in loco parentis, or physician statement that the child has had varicella disease.
(10) To satisfy the requirements in subrules (2) to (9) of this rule, each vaccine shall have been administered in accordance with the manufacturer's instructions. A 4-day grace leniency is allowed on the minimum ages and intervals for each vaccine.
(11) If the requirements for immunization cannot be completed due to medical reasons within 4 months of admittance, a child shall be permitted to remain enrolled in a school or group program for a reasonable length of time that is consistent with good medical practice. A statement requesting the enrollment of the child beyond the exclusion date shall be signed by a physician or local health officer and shall certify that the child is in the process of complying with all immunization requirements. This medical exemption shall be filed with the child's school or group program immunization records until it can be replaced with proof that the vaccines for which an exemption was granted have been received. Upon completion of the required immunizations, a parent shall present the school or group program with a certificate of immunization.
(12) When presented with a medical exemption, religious or other exemption, the administrator of a child's school or operator of a child's group program shall recognize the exemption status of the child.
(13) A standard record of the immunizations required by this rule and exemptions shall be maintained by every school for every pupil on forms supplied by the department. When a pupil transfers to another school or school district, the record of immunization, or a true copy of the record, shall be sent to the new school by the original school.

(14) All of the following information is needed to fulfill the requirements of section 9209(1) of the code:
(a) A listing, by child, of the number of doses of each vaccine received.
(b) The date of each immunization for each vaccine received in the series.
(c) A listing, by type of exemption granted, of the children who have exemptions.
(15) Not less than 95% of entering students in a school -- less the entering students who have medical, religious, or other exemptions -- shall have received vaccinations as outlined in subrules (8) and (9) of this rule.
(16) A principal of a school or operator of a group program shall make immunization records available for inspection by authorized representatives of the department or the appropriate local health department. The local health officer shall also make public clinic immunization records available to local schools or group programs for the purpose of verifying pupil immunizations.
(17) A requirement for immunization with a specific vaccine may be suspended temporarily at the request of the department director for reasons of inadequate vaccine supply.
History: 1993 MR 4, Eff. Apr. 29, 1993; 1994 MR 7, Eff. July 21, 1994; 1995 MR 8, Eff. Aug. 17, 1995; 1999 MR 1, Eff. Feb. 5, 1999; 2006 MR 10, Eff. May 26, 2006.

R 325.177
Source: 1993 AACS.

R 325.178
Source: 1998-2000 AACS.

R 325.179
Source: 1993 AACS.

R 325.180
Source: 1998-2000 AACS.

R 325.181
Source: 1993 AACS.

R 325.199
Source: 1993 AACS.

RABIES

R 325.201
Source: 1997 AACS.

OFFICE OF THE DIRECTOR

CONVALESCENT SERA AND VACCINES

R 325.210
Source: 1997 AACS.

R 325.211
Source: 1997 AACS.

R 325.212
Source: 1997 AACS.

R 325.213
Source: 1997 AACS.

R 325.214
Source: 1997 AACS.

R 325.215
Source: 1997 AACS.

R 325.216
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R 325.221
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R 325.222
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R 325.223
Source: 1997 AACS.

R 325.224
Source: 1997 AACS.

POLIOMYELITIS VACCINE

R 325.231
Source: 1997 AACS.

R 325.232
Source: 1997 AACS.

R 325.233
Source: 1997 AACS.

R 325.234
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R 325.235
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R 325.236
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R 325.237
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R 325.238
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R 325.239
Source: 1997 AACS.

DIABETES RESEARCH

R 325.271
Source: 1997 AACS.

R 325.272
Source: 1997 AACS.

R 325.273
Source: 1997 AACS.

R 325.274
Source: 1997 AACS.

R 325.275
Source: 1997 AACS.

KIDNEY TRAINING

R 325.281
Source: 1997 AACS.

R 325.282
Source: 1997 AACS.

R 325.283
Source: 1997 AACS.

R 325.284
Source: 1997 AACS.

BUREAU OF PERSONAL HEALTH SERVICES

MIDWIVES

R 325.321
Source: 1997 AACS.

R 325.322
Source: 1997 AACS.

R 325.323
Source: 1997 AACS.

R 325.324
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R 325.329
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R 325.330
Source: 1997 AACS.

OFFICE OF THE DIRECTOR

MINIMUM STANDARDS FOR GROUP DAY CARE OF CHILDREN

R 325.341
Source: 1997 AACS.

R 325.342
Source: 1997 AACS.

R 325.343
Source: 1997 AACS.

COMMUNICABLE DISEASES IN CHILDREN IN GROUP RESIDENCE, CARE, EDUCATION, AND CAMPING

R 325.351
Source: 1997 AACS.

R 325.352
Source: 1997 AACS.

SPECIAL AGENTS OF BUREAU OF RECORDS AND STATISTICS

R 325.361
Source: 1997 AACS.

BARBER SHOPS

R 325.451
Source: 1997 AACS.

FOOD ESTABLISHMENTS

R 325.592
Source: 1997 AACS.

R 325.593
Source: 1997 AACS.

DEPARTMENT OF ENVIRONMENTAL QUALITY

WATER BUREAU

SANITARY STANDARDS FOR SCHOOLS

R 325.721
Source: 2005 AACS.

R 325.722
Source: 2005 AACS.

R 325.723
Source: 2005 AACS.

R 325.724
Source: 2005 AACS.

R 325.725
Source: 2005 AACS.

R 325.726
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Source: 2005 AACS.

R 325.730
Source: 2005 AACS.

R 325.731
Source: 2005 AACS.

R 325.732
Source: 2005 AACS.

R 325.733
Source: 2005 AACS.

R 325.734
Source: 2005 AACS.

BOTTLE CAPS

R 325.741
Source: 1997 AACS.

TRAILER COACH PARKS

R 325.746
Source: 1997 AACS.

BUREAU OF DISEASE CONTROL AND LABORATORY SERVICES

CONTROL OF TUBERCULOSIS

PART 1. STATE SUBSIDY

R 325.763
Source: 1997 AACS.

PART 2. ADMISSIONS TO TUBERCULOSIS HOSPITALS

R 325.771
Source: 1997 AACS.

R 325.772
Source: 1997 AACS.

R 325.773
Source: 1997 AACS.

R 325.775
Source: 1997 AACS.

PART 3. TRANSFERS, DISCHARGES, AND DEATHS

R 325.781
Source: 1997 AACS.

R 325.782
Source: 1997 AACS.

R 325.783
Source: 1997 AACS.

R 325.784
Source: 1997 AACS.

R 325.786
Source: 1997 AACS.

PART 4A. VOUCHERS FOR COUNTY CHARGE PATIENTS

R 325.801
Source: 1997 AACS.

R 325.802
Source: 1997 AACS.

R 325.803
Source: 1997 AACS.

R 325.804
Source: 1997 AACS.

PART 4B. VOUCHERS FOR STATE AT LARGE PATIENTS

R 325.811
Source: 1997 AACS.

R 325.812
Source: 1997 AACS.

R 325.813
Source: 1997 AACS.

R 325.814
Source: 1997 AACS.

R 325.815
Source: 1997 AACS.

R 325.816
Source: 1997 AACS.

R 325.817
Source: 1997 AACS.

R 325.818
Source: 1997 AACS.

R 325.820
Source: 1997 AACS.

PART 5. REIMBURSEMENTS FOR CARE OF PATIENTS

R 325.831
Source: 1997 AACS.

R 325.832
Source: 1997 AACS.

R 325.833
Source: 1997 AACS.

R 325.834
Source: 1997 AACS.

PART 6. RECALCITRANT PATIENTS

R 325.841
Source: 1997 AACS.

R 325.842
Source: 1997 AACS.

R 325.843
Source: 1997 AACS.

R 325.844
Source: 1997 AACS.

R 325.845
Source: 1997 AACS.

R 325.846
Source: 1997 AACS.

R 325.847
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R 325.848
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R 325.849
Source: 1997 AACS.

R 325.850
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R 325.851
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R 325.852
Source: 1997 AACS.

PART 7. REIMBURSEMENT PROCEDURE

R 325.861
Source: 1997 AACS.

R 325.862
Source: 1997 AACS.

R 325.863
Source: 1997 AACS.

R 325.864
Source: 1997 AACS.

R 325.865
Source: 1997 AACS.

R 325.866
Source: 1997 AACS.

R 325.867
Source: 1997 AACS.

R 325.871
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Source: 1997 AACS.

R 325.873
Source: 1997 AACS.

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Source: 1997 AACS.

R 325.875
Source: 1997 AACS.

PART 8. VOLUNTARY AGREEMENTS BY PATIENTS TO MAKE REIMBURSEMENT

R 325.881
Source: 1997 AACS.

R 325.882
Source: 1997 AACS.

R 325.883
Source: 1997 AACS.

R 325.884
Source: 1997 AACS.

R 325.885
Source: 1997 AACS.

R 325.886
Source: 1997 AACS.

PART 9. WITHHOLDING SUBSIDIES

R 325.891
Source: 1997 AACS.

PART 10. REPORTS OF CHEST X-RAYS

R 325.896
Source: 1997 AACS.

PART 11. EXAMINATION OF PERSONS IN HIGH EXPOSURE GROUPS

R 325.897
Source: 1997 AACS.

R 325.898
Source: 1997 AACS.

REIMBURSEMENT FOR OUTPATIENT SERVICES

R 325.901
Source: 1997 AACS.

R 325.902
Source: 1997 AACS.

HUMANE CARE AND USE OF ANIMALS

R 325.921
Source: 1980 AACS.

R 325.922
Source: 1980 AACS.

R 325.923
Source: 1980 AACS.

R 325.924

Source: 1980 AACS.

R 325.925
Source: 1980 AACS.

R 325.926
Source: 1980 AACS.

ANATOMY BOARD

ANATOMICAL GIFTS

R 325.951
Source: 1981 AACS.

R 325.952
Source: 1981 AACS.

R 325.953
Source: 1981 AACS.

R 325.954
Source: 1981 AACS.

R 325.955
Source: 1981 AACS.

BUREAU OF DISEASE CONTROL AND LABORATORY SERVICES

HUMANE USE OF ANIMALS

R 325.981
Source: 1997 AACS.

R 325.982
Source: 1997 AACS.

R 325.983
Source: 1997 AACS.

R 325.984
Source: 1997 AACS.

R 325.985
Source: 1997 AACS.

R 325.986
Source: 1997 AACS.

R 325.987
Source: 1997 AACS.

R 325.988
Source: 1997 AACS.

R 325.989
Source: 1997 AACS.

R 325.990
Source: 1997 AACS.

R 325.991
Source: 1997 AACS.

R 325.992
Source: 1997 AACS.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

HEALTH FACILITIES SERVICES ADMINISTRATION

MINIMUM STANDARDS FOR HOSPITALS

PART 3. OPERATIONAL RULES AND MINIMUM STANDARDS FOR ALL HOSPITAL-PHYSICAL PLANT, FACILITIES, EQUIPMENT, AND OPERATION

R 325.1053
Source: 1981 AACS.

R 325.1054
Source: 1981 AACS.

R 325.1056
Source: 1981 AACS.

DEPARTMENT OF COMMUNITY HEALTH

OFFICE OF THE DIRECTOR

DONATED AND UNCLAIMED DEAD HUMAN BODIES OR PARTS

R 325.1171
Source: 1997 AACS.

R 325.1172
Source: 1997 AACS.

R 325.1173
Source: 1997 AACS.

R 325.1174
Source: 1997 AACS.

R 325.1175
Source: 1997 AACS.

R 325.1176
Source: 1997 AACS.

R 325.1177
Source: 1997 AACS.

HEARINGS

R 325.1201

Source: 1997 AACS.

R 325.1202
Source: 1997 AACS.

R 325.1203
Source: 1997 AACS.

R 325.1204
Source: 1997 AACS.

R 325.1205
Source: 1997 AACS.

R 325.1206
Source: 1997 AACS.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

BOARD OF EXAMINERS FOR SANITARIANS

R 325.1401
Source: 1997 AACS.

R 325.1402
Source: 1997 AACS.

R 325.1403
Source: 1997 AACS.

R 325.1404
Source: 1997 AACS.

R 325.1405
Source: 1997 AACS.

R 325.1406
Source: 1997 AACS.

R 325.1407
Source: 1997 AACS.

R 325.1408
Source: 1997 AACS.

R 325.1409
Source: 1997 AACS.

R 325.1410
Source: 1997 AACS.

R 325.1411
Source: 1997 AACS.

R 325.1412
Source: 1997 AACS.

DEPARTMENT OF COMMUNITY HEALTH

POLICY AND LEGAL AFFAIRS ADMINISTRATION

PHENYLKETONURIA TEST ON NEWBORN INFANTS

R 325.1471
Source: 2003 AACS.

R 325.1472
Source: 2003 AACS.

R 325.1473
Source: 2003 AACS.

R 325.1474
Source: 2003 AACS.

R 325.1475
Source: 2003 AACS.

DEPARTMENT OF COMMUNITY HEALTH

OFFICE OF THE DIRECTOR

PRESCHOOL VISION TESTS

R 325.1481
Source: 1997 AACS.

DISEASE CONTROL IN SCHOOLS

R 325.1491
Source: 1997 AACS.

DEPARTMENT OF AGRICULTURE

AGRICULTURAL LABOR CAMPS

R 325.1501
Source: 1997 AACS.

R 325.1502
Source: 1997 AACS.

R 325.1503
Source: 1997 AACS.

R 325.1504
Source: 1997 AACS.

R 325.1505
Source: 1997 AACS.

R 325.1506
Source: 1997 AACS.

R 325.1507

Source: 1997 AACS.

R 325.1508
Source: 1997 AACS.

R 325.1509
Source: 1997 AACS.

R 325.1510
Source: 1997 AACS.

R 325.1511
Source: 1997 AACS.

R 325.1512
Source: 1997 AACS.

R 325.1513
Source: 1997 AACS.

R 325.1514
Source: 1997 AACS.

R 325.1515
Source: 1997 AACS.

R 325.1531
Source: 1997 AACS.

R 325.1532
Source: 1997 AACS.

R 325.1533
Source: 1997 AACS.

R 325.1534
Source: 1997 AACS.

R 325.1535
Source: 1997 AACS.

R 325.1536
Source: 1997 AACS.

DEPARTMENT OF ENVIRONMENTAL QUALITY

DRINKING WATER AND RADIOLOGICAL PROTECTION DIVISION

MEDICAL WASTE PRODUCING FACILITIES

325.1541
Source: 1998-2000 AACS.

325.1542
Source: 1998-2000 AACS.

325.1543
Source: 1998-2000 AACS.

325.1544
Source: 1998-2000 AACS.

325.1545
Source: 1998-2000 AACS.

325.1546
Source: 1998-2000 AACS.

325.1547
Source: 1998-2000 AACS.

325.1548
Source: 1998-2000 AACS.

325.1549
Source: 1998-2000 AACS.

DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF ENVIRONMENTAL HEALTH
CAMPGROUNDS

R 325.1551
Source: 1998-2000 AACS.

R 325.1552
Source: 1998-2000 AACS.

R 325.1553
Source: 1998-2000 AACS.

R 325.1554
Source: 1998-2000 AACS.

R 325.1555
Source: 1998-2000 AACS.

R 325.1555a
Source: 1998-2000 AACS.

R 325.1555b
Source: 1998-2000 AACS.

R 325.1556
Source: 1998-2000 AACS.

R 325.1556a
Source: 1998-2000 AACS.

R 325.1556b
Source: 1998-2000 AACS.

R 325.1557
Source: 1998-2000 AACS.

R 325.1558
Source: 1998-2000 AACS.

R 325.1559
Source: 1998-2000 AACS.

R 325.1560
Source: 1998-2000 AACS.

R 325.1561
Source: 1998-2000 AACS.

R 325.1562
Source: 1998-2000 AACS.

R 325.1563
Source: 1998-2000 AACS.

R 325.1564
Source: 1998-2000 AACS.

R 325.1566
Source: 1998-2000 AACS.

R 325.1568
Source: 1998-2000 AACS.

R 325.1569
Source: 1987 AACS.

R 325.1571
Source: 1998-2000 AACS.

R 325.1574
Source: 1998-2000 AACS.

R 325.1576
Source: 1998-2000 AACS.

R 325.1585
Source: 1987 AACS.

R 325.1586
Source: 1998-2000 AACS.

R 325.1599
Source: 1998-2000 AACS.

DIVISION OF WATER SUPPLY

GROUNDWATER QUALITY CONTROL

PART 1. WELL CONSTRUCTION CODE

R 325.1601
Source: 1994 AACS.

R 325.1601a

Source: 1994 AACS.

R 325.1602
Source: 1994 AACS.

R 325.1603
Source: 1994 AACS.

R 325.1603a
Source: 1994 AACS.

R 325.1604
Source: 1994 AACS.

R 325.1605
Source: 1994 AACS.

R 325.1606
Source: 1994 AACS.

R 325.1607
Source: 1994 AACS.

R 325.1608
Source: 1994 AACS.

R 325.1610
Source: 1994 AACS.

R 325.1611
Source: 1994 AACS.

R 325.1612
Source: 1994 AACS.

R 325.1613
Source: 1994 AACS.

R 325.1621
Source: 1994 AACS.

R 325.1622
Source: 1994 AACS.

R 325.1624
Source: 1994 AACS.

R 325.1625
Source: 1994 AACS.

R 325.1626
Source: 1994 AACS.

R 325.1627
Source: 1994 AACS.

R 325.1631
Source: 1997 AACS.

R 325.1631a
Source: 1994 AACS.

R 325.1631b
Source: 1994 AACS.

R 325.1631c
Source: 1994 AACS.

R 325.1631d
Source: 1994 AACS.

R 325.1632
Source: 1994 AACS.

R 325.1632a
Source: 1994 AACS.

R 325.1633
Source: 1997 AACS.

R 325.1633a
Source: 1994 AACS.

R 325.1634
Source: 1997 AACS.

R 325.1634a
Source: 1994 AACS.

R 325.1635
Source: 1994 AACS.

R 325.1636
Source: 1997 AACS.

R 325.1637
Source: 1994 AACS.

R 325.1637a
Source: 1994 AACS.

R 325.1638
Source: 1994 AACS.

R 325.1639
Source: 1994 AACS.

R 325.1640
Source: 1994 AACS.

R 325.1641
Source: 1994 AACS.

R 325.1642
Source: 1994 AACS.

R 325.1651
Source: 1994 AACS.

R 325.1652
Source: 1997 AACS.

R 325.1653
Source: 1994 AACS.

R 325.1653a
Source: 1994 AACS.

R 325.1654
Source: 1994 AACS.

R 325.1655
Source: 1994 AACS.

R 325.1656
Source: 1994 AACS.

R 325.1656a
Source: 1994 AACS.

R 325.1657
Source: 1994 AACS.

R 325.1657a
Source: 1994 AACS.

R 325.1658
Source: 1994 AACS.

R 325.1661
Source: 1994 AACS.

R 325.1662
Source: 1994 AACS.

R 325.1663
Source: 1994 AACS.

R 325.1664
Source: 1994 AACS.

R 325.1665
Source: 1994 AACS.

R 325.1666
Source: 1997 AACS.

R 325.1667
Source: 1994 AACS.

R 325.1668
Source: 1994 AACS.

R 325.1669
Source: 1994 AACS.

R 325.1670
Source: 1994 AACS.

R 325.1671
Source: 1997 AACS.

R 325.1672
Source: 1994 AACS.

R 325.1673
Source: 1994 AACS.

R 325.1674
Source: 1994 AACS.

R 325.1674a
Source: 1994 AACS.

R 325.1675
Source: 1994 AACS.

R 325.1676
Source: 1994 AACS.

PART 2. DRILLING CONTRACTORS' AND PUMP INSTALLERS' REGISTRATION

R 325.1701
Source: 1994 AACS.

R 325.1701a
Source: 1994 AACS.

R 325.1702
Source: 1994 AACS.

R 325.1703
Source: 1994 AACS.

R 325.1704
Source: 1994 AACS.

R 325.1705
Source: 1997 AACS.

R 325.1705a
Source: 1994 AACS.

R 325.1706
Source: 1994 AACS.

R 325.1707
Source: 1994 AACS.

R 325.1707a
Source: 1994 AACS.

R 325.1708
Source: 1994 AACS.

R 325.1709
Source: 1994 AACS.

R 325.1711
Source: 1994 AACS.

PART 3. DRILLING MACHINES AND SERVICE VEHICLES

R 325.1721
Source: 1994 AACS.

R 325.1722
Source: 1994 AACS.

FAMILY INDEPENDENCE AGENCY

DIRECTOR'S OFFICE

HOMES FOR THE AGED

R 325.1801
Source: 2004 AACS.

R 325.1811
Source: 2004 AACS.

R 325.1812
Source: 2004 AACS.

R 325.1813
Source: 2004 AACS.

R 325.1815
Source: 2004 AACS.

R 325.1816
Source: 2004 AACS.

R 325.1819
Source: 2004 AACS.

R 325.1821
Source: 2004 AACS.

R 325.1825
Source: 2004 AACS.

R 325.1827
Source: 2004 AACS.

R 325.1829
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R 325.1831
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R 325.1833
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R 325.1835
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R 325.1836
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R 325.1837
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R 325.1839
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R 325.1841
Source: 2004 AACS.

R 325.1843
Source: 2004 AACS.

R 325.1845
Source: 2004 AACS.

R 325.1847
Source: 2004 AACS.

R 325.1851
Source: 2004 AACS.

R 325.1853
Source: 2004 AACS.

R 325.1855
Source: 2004 AACS.

R 325.1857
Source: 2004 AACS.

R 325.1859
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R 325.1861
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R 325.1863
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R 325.1865
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R 325.1867
Source: 2004 AACS.

R 325.1871
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R 325.1872
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R 325.1873
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R 325.1874
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R 325.1875
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R 325.1876
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R 325.1877
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R 325.1878
Source: 2004 AACS.

R 325.1879
Source: 2004 AACS.

R 325.1880
Source: 2004 AACS.

R 325.1881
Source: 2004 AACS.

R 325.1882
Source: 2004 AACS.

R 325.1883
Source: 2004 AACS.

R 325.1884
Source: 2004 AACS.

R 325.1885
Source: 2004 AACS.

R 325.1886
Source: 2004 AACS.

R 325.1887
Source: 2004 AACS.

R 325.1888
Source: 2004 AACS.

R 325.1889
Source: 2004 AACS.

R 325.1890
Source: 2004 AACS.

R 325.1891

Source: 2004 AACS.

PART 1. GENERAL PROVISIONS

R 325.1901
Source: 2004 AACS.

R 325.1909
Source: 1997 AACS.

PART 2. STATE ADMINISTRATION

R 325.1911
Source: 2004 AACS.

R 325.1912
Source: 2004 AACS.

R 325.1913
Source: 2004 AACS.

R 325.1914
Source: 2004 AACS.

R 325.1915
Source: 2004 AACS.

R 325.1916
Source: 2004 AACS.

R 325.1917
Source: 2004 AACS.

R 325.1919
Source: 1997 AACS.

PART 3. ADMINISTRATIVE MANAGEMENT OF HOMES

R 325.1921
Source: 2004 AACS.

R 325.1922
Source: 2004 AACS.

R 325.1923
Source: 2004 AACS.

R 325.1924
Source: 2004 AACS.

R 325.1925
Source: 1997 AACS.

R 325.1927
Source: 1997 AACS.

R 325.1928

Source: 1997 AACS.

PART 4. RESIDENT CARE

R 325.1931
Source: 2004 AACS.

R 325.1932
Source: 2004 AACS.

R 325.1933
Source: 2004 AACS.

R 325.1934
Source: 2004 AACS.

R 325.1935
Source: 2004 AACS.

R 325.1936
Source: 1997 AACS.

R 325.1937
Source: 1997 AACS.

R 325.1938
Source: 1997 AACS.

R 325.1939
Source: 1997 AACS.

PART 5. RECORDS

R 325.1941
Source: 2004 AACS.

R 325.1942
Source: 2004 AACS.

R 325.1943
Source: 2004 AACS.

R 325.1944
Source: 2004 AACS.

R 325.1945
Source: 1997 AACS.

R 325.1947
Source: 1997 AACS.

PART 6. FOOD SERVICE

R 325.1951
Source: 2004 AACS.

R 325.1952
Source: 2004 AACS.

R 325.1953
Source: 2004 AACS.

R 325.1954
Source: 2004 AACS.

R 325.1957
Source: 1997 AACS.

R 325.1959
Source: 1997 AACS.

PART 7. BUILDINGS AND GROUNDS

R 325.1961
Source: 2004 AACS.

R 325.1962
Source: 2004 AACS.

R 325.1963
Source: 2004 AACS.

R 325.1964
Source: 2004 AACS.

R 325.1965
Source: 2004 AACS.

R 325.1966
Source: 2004 AACS.

R 325.1967
Source: 2004 AACS.

R 325.1968
Source: 2004 AACS.

R 325.1969
Source: 2004 AACS.

R 325.1970
Source: 2004 AACS.

R 325.1971
Source: 2004 AACS.

R 325.1972
Source: 2004 AACS.

R 325.1973
Source: 2004 AACS.

R 325.1974
Source: 2004 AACS.

R 325.1975
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R 325.1976
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R325.1977
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R 325.1978
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R 325.1979
Source: 2004 AACS.

R 325.1980
Source: 2004 AACS.

PART 8. EMERGENCY PROCEDURES

R 325.1981
Source: 2004 AACS.

R 325.1982
Source: 1997 AACS.

R 325.1983
Source: 1997 AACS.

R 325.1984
Source: 1997 AACS.

R 325.1985
Source: 1997 AACS.

R 325.1986
Source: 1997 AACS.

R 325.1991
Source: 1997 AACS.

R 325.1993
Source: 1997 AACS.

R 325.1995
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R 325.1997
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R 325.2001
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R 325.2002
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R 325.2004
Source: 1997 AACS.

R 325.2005
Source: 1997 AACS.

R 325.2007
Source: 1997 AACS.

R 325.2011
Source: 1997 AACS.

R 325.2012
Source: 1997 AACS.

R 325.2013
Source: 1997 AACS.

R 325.2014
Source: 1997 AACS.

R 325.2015
Source: 1997 AACS.

R 325.2016
Source: 1997 AACS.

R 325.2017
Source: 1997 AACS.

R 325.2018
Source: 1997 AACS.

R 325.2019
Source: 1997 AACS.

R 325.2020
Source: 1997 AACS.

R 325.2021
Source: 1997 AACS.

R 325.2022
Source: 1997 AACS.

R 325.2023
Source: 1997 AACS.

R 325.2024
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R 325.2025
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R 325.2026
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R 325.2027
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R 325.2028
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R 325.2029
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R 325.2031
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R 325.2032
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R 325.2033
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R 325.2034
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R 325.2035
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R 325.2036
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R 325.2037
Source: 1997 AACS.

R 325.2038
Source: 1997 AACS.

R 325.2041
Source: 1997 AACS.

R 325.2051
Source: 1997 AACS.

R 325.2052
Source: 1997 AACS.

R 325.2053
Source: 1997 AACS.

R 325.2055
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R 325.2057
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R 325.2059

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R 325.2061
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R 325.2062
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R 325.2064
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R 325.2065
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R 325.2066
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R 325.2068
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R 325.2071
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R 325.2072
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R 325.2073
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R 325.2074
Source: 1997 AACS.

R 325.2075
Source: 1997 AACS.

R 325.2081
Source: 1997 AACS.

R 325.2082
Source: 1997 AACS.

R 325.2083
Source: 1997 AACS.

R 325.2084
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R 325.2085
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R 325.2091
Source: 1997 AACS.

R 325.2092
Source: 1997 AACS.

R 325.2093
Source: 1997 AACS.

R 325.2094
Source: 1997 AACS.

R 325.2095
Source: 1997 AACS.

R 325.2096
Source: 1997 AACS.

R 325.2097
Source: 1997 AACS.

DEPARTMENT OF COMMUNITY HEALTH

BUREAU OF ENVIRONMENTAL AND OCCUPATIONAL HEALTH

PUBLIC BATHING BEACHES

R 325.2101
Source: 1995 AACS.

R 325.2102
Source: 1995 AACS.

R 325.2103
Source: 1995 AACS.

DEPARTMENT OF ENVIRONMENTAL QUALITY

ENVIRONMENTAL AND OCCUPATIONAL HEALTH SERVICES ADMINISTRATION

PUBLIC SWIMMING POOLS

PART 1. GENERAL PROVISIONS

R 325.2111
Source: 2001 AACS.

R 325.2113
Source: 2001 AACS.

R 325.2113a
Source: 2001 AACS.

R 325.2114
Source: 2001 AACS.

R 325.2115
Source: 2001 AACS.

R 325.2116
Source: 2001 AACS.

R 325.2117

Source: 2001 AACS.

R 325.2118
Source: 2001 AACS.

R 325.2118a
Source: 2001 AACS.

R 325.2118d
Source: 2001 AACS.

PART 2. CONSTRUCTION

R 325.2121
Source: 2001 AACS.

R 325.2122
Source: 2001 AACS.

R 325.2123
Source: 2001 AACS.

R 325.2124
Source: 2001 AACS.

R 325.2125
Source: 2001 AACS.

R 325.2126
Source: 2001 AACS.

R 325.2127
Source: 2001 AACS.

R 325.2128
Source: 2001 AACS.

R 325.2129
Source: 2001 AACS.

R 325.2129a
Source: 2001 AACS.

R 325.2131
Source: 2001 AACS.

R 325.2132
Source: 2001 AACS.

R 325.2133
Source: 2001 AACS.

R 325.2134
Source: 2001 AACS.

R 325.2135
Source: 2001 AACS.

R 325.2136
Source: 2001 AACS.

R 325.2137
Source: 2001 AACS.

R 325.2138
Source: 2001 AACS.

R 325.2141
Source: 2001 AACS.

R 325.2142
Source: 2001 AACS.

R 325.2143
Source: 2001 AACS.

R 325.2143a
Source: 2001 AACS.

R 325.2144
Source: 2001 AACS.

R 325.2145
Source: 2001 AACS.

R 325.2146
Source: 2001 AACS.

R 325.2151
Source: 2001 AACS.

R 325.2152
Source: 2001 AACS.

R 325.2153
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R 325.2154
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R 325.2155
Source: 2001 AACS.

R 325.2156
Source: 2001 AACS.

R 325.2157
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R 325.2158
Source: 2001 AACS.

R 325.2159
Source: 2001 AACS.

R 325.2161
Source: 2001 AACS.

R 325.2163
Source: 2001 AACS.

R 325.2165
Source: 2001 AACS.

R 325.2171
Source: 2001 AACS.

R 325.2174
Source: 2001 AACS.

R 325.2175
Source: 2001 AACS.

R 325.2176
Source: 2001 AACS.

R 325.2178
Source: 2001 AACS.

R 325.2179
Source: 2001 AACS.

R 325.2181
Source: 2001 AACS.

R 325.2182
Source: 2001 AACS.

R 325.2183
Source: 2001 AACS.

R 325.2184
Source: 2001 AACS.

PART 3. OPERATION AND USE

R 325.2191
Source: 2001 AACS.

R 325.2192
Source: 2001 AACS.

R 325.2193
Source: 2001 AACS.

R 325.2194
Source: 2001 AACS.

R 325.2194a
Source: 2001 AACS.

R 325.2195
Source: 2001 AACS.

R 325.2196

Source: 2001 AACS.

R 325.2197
Source: 2001 AACS.

R 325.2198
Source: 2001 AACS.

R 325.2199
Source: 2001 AACS.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

OFFICE OF DIRECTOR

AMBULANCES

R 325.2201
Source: 1997 AACS.

R 325.2202
Source: 1997 AACS.

R 325.2203
Source: 1997 AACS.

R 325.2204
Source: 1997 AACS.

R 325.2205
Source: 1997 AACS.

R 325.2206
Source: 1997 AACS.

R 325.2207
Source: 1997 AACS.

R 325.2208
Source: 1997 AACS.

BUREAU OF HEALTH CARE ADMINISTRATION

ADVANCED EMERGENCY MEDICAL SERVICES

R 325.2211
Source: 1997 AACS.

R 325.2221
Source: 1997 AACS.

R 325.2222
Source: 1997 AACS.

R 325.2223
Source: 1997 AACS.

R 325.2224

Source: 1997 AACS.

R 325.2225
Source: 1997 AACS.

R 325.2226
Source: 1997 AACS.

R 325.2227
Source: 1997 AACS.

R 325.2228
Source: 1997 AACS.

R 325.2231
Source: 1997 AACS.

R 325.2232
Source: 1997 AACS.

R 325.2233
Source: 1997 AACS.

R 325.2234
Source: 1997 AACS.

R 325.2241
Source: 1997 AACS.

R 325.2242
Source: 1997 AACS.

R 325.2243
Source: 1997 AACS.

R 325.2244
Source: 1997 AACS.

R 325.2245
Source: 1997 AACS.

R 325.2246
Source: 1997 AACS.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

DIRECTOR'S OFFICE

OCCUPATIONAL HEALTH STANDARDS

R 325.2401
Source: 2003 AACS.

R 325.2402
Source: 2003 AACS.

R 325.2403
Source: 2003 AACS.

R 325.2404
Source: 2003 AACS.

R 325.2405
Source: 2003 AACS.

R 325.2410
Source: 2003 AACS.

R 325.2411
Source: 2003 AACS.

R 325.2412
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R 325.2413

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R 325.2414
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R 325.2415
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R 325.2416
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R 325.2417
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R 325.2418
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R 325.2419
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R 325.2421
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R 325.2422
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R 325.2424
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R 325.2429
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R 325.2430
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R 325.2431
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R 325.2434
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R 325.2435
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R 325.2436
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R 325.2437
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R 325.2438
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R 325.2439
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R 325.2440
Source: 2003 AACS.

R 325.2441
Source: 2003 AACS.

R 325.2442
Source: 2003 AACS.

R 325.2442a
Source: 2003 AACS.

R 325.2442b
Source: 2003 AACS.

R 325.2442c
Source: 2003 AACS.

R 325.2443
Source: 2003 AACS.

R 325.2444
Source: 2003 AACS.

R 325.2445
Source: 2003 AACS.

R 325.2446
Source: 2003 AACS.

R 325.2447
Source: 2003 AACS.

R 325.2448
Source: 2003 AACS.

DEPARTMENT OF AGRICULTURE

FOOD SERVICE SANITATION

R 325.2501
Source: 1997 AACS.

R 325.2502
Source: 1997 AACS.

R 325.2503
Source: 1997 AACS.

R 325.2504
Source: 1997 AACS.

R 325.2505
Source: 1997 AACS.

DEPARTMENT OF COMMUNITY HEALTH

OFFICE OF THE DIRECTOR

MERCURY LEVELS IN FISH FROM MICHIGAN WATERS

R 325.2601
Source: 1997 AACS.

R 325.2602
Source: 1997 AACS.

R 325.2603
Source: 1997 AACS.

R 325.2604
Source: 1997 AACS.

R 325.2605
Source: 1997 AACS.

DEPARTMENT OF STATE POLICE

SPECIAL OPERATIONS DIVISION

TESTS FOR BREATH ALCOHOL

R 325.2651
Source: 2003 AACS.

R 325.2652
Source: 1994 AACS.

R 325.2653
Source: 2003 AACS.

R 325.2654
Source: 1992 AACS.

R 325.2655
Source: 2003 AACS.

R 325.2656
Source: 1994 AACS.

R 325.2657
Source: 1997 AACS.

R 325.2658
Source: 1994 AACS.

R 325.2659
Source: 2005 AACS.

FORENSIC SCIENCE DIVISION

ALCOHOL TESTING OF BLOOD AND URINE

R 325.2671
Source: 2005 AACS.

R 325.2672
Source: 2005 AACS.

R 325.2673
Source: 2005 AACS.

R 325.2674
Source: 2005 AACS.

R 325.2675
Source: 1993 AACS.

R 325.2676
Source: 1997 AACS.

R 325.2677
Source: 1997 AACS.

DEPARTMENT OF ENVIRONMENTAL QUALITY

BUREAU OF ENVIRONMENTAL AND OCCUPATIONAL HEALTH

SOLID WASTE DISPOSAL

R 325.2701
Source: 1997 AACS.

R 325.2702
Source: 1997 AACS.

R 325.2721
Source: 1997 AACS.

R 325.2722
Source: 1997 AACS.

R 325.2723
Source: 1997 AACS.

R 325.2731
Source: 1997 AACS.

R 325.2732
Source: 1997 AACS.

R 325.2733
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R 325.2734
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R 325.2735
Source: 1997 AACS.

R 325.2741
Source: 1997 AACS.

R 325.2742
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R 325.2743
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R 325.2744
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R 325.2745
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R 325.2746
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R 325.2747
Source: 1997 AACS.

R 325.2749
Source: 1997 AACS.

R 325.2751
Source: 1997 AACS.

R 325.2752
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R 325.2754
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R 325.2760
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R 325.2764
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R 325.2765
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R 325.2766
Source: 1997 AACS.

R 325.2767
Source: 1997 AACS.

R 325.2671
Source: 2005 AACS.

R 325.2672
Source: 2005 AACS.

R 325.2673
Source: 2005 AACS.

R 325.2674
Source: 2005 AACS.

R 325.2775
Source: 1997 AACS.

R 325.2776
Source: 1997 AACS.

R 325.2777
Source: 1997 AACS.

R 325.2778
Source: 1997 AACS.

R 325.2781

Source: 1997 AACS.

R 325.2782
Source: 1997 AACS.

R 325.2783
Source: 1997 AACS.

R 325.2784
Source: 1997 AACS.

R 325.2785
Source: 1997 AACS.

R 325.2786
Source: 1997 AACS.

R 325.2787
Source: 1997 AACS.

R 325.2788
Source: 1997 AACS.

R 325.2789
Source: 1997 AACS.

DEPARTMENT OF COMMUNITY HEALTH

OFFICE OF THE DIRECTOR

CERTIFICATION OF SPECIAL SERVICES IN HOSPITALS

R 325.3001
Source: 1997 AACS.

R 325.3051
Source: 1997 AACS.

R 325.3053
Source: 1997 AACS.

R 325.3055
Source: 1997 AACS.

R 325.3057
Source: 1997 AACS.

R 325.3058
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R 325.3061
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R 325.3063
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R 325.3064
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R 325.3069
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R 325.3070
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R 325.3078
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R 325.3079
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R 325.3080
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R 325.3085
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R 325.3087
Source: 1997 AACS.

R 325.3088
Source: 1997 AACS.

R 325.3089
Source: 1997 AACS.

R 325.3091
Source: 1997 AACS.

R 325.3101
Source: 1997 AACS.

R 325.3103
Source: 1997 AACS.

R 325.3105
Source: 1997 AACS.

R 325.3107
Source: 1997 AACS.

R 325.3108
Source: 1997 AACS.

R 325.3110
Source: 1997 AACS.

R 325.3112
Source: 1997 AACS.

R 325.3113
Source: 1997 AACS.

R 325.3114
Source: 1997 AACS.

R 325.3116
Source: 1997 AACS.

R 325.3117
Source: 1997 AACS.

R 325.3118
Source: 1997 AACS.

R 325.3119
Source: 1997 AACS.

R 325.3121
Source: 1997 AACS.

R 325.3123
Source: 1997 AACS.

R 325.3124

Source: 1997 AACS.

R 325.3125
Source: 1997 AACS.

R 325.3127
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R 325.3128
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R 325.3129
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R 325.3131
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R 325.3132
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R 325.3134
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R 325.3136
Source: 1997 AACS.

R 325.3138
Source: 1997 AACS.

R 325.3139
Source: 1997 AACS.

R 325.3140
Source: 1997 AACS.

R 325.3141
Source: 1997 AACS.

R 325.3142
Source: 1997 AACS.

R 325.3144
Source: 1997 AACS.

R 325.3151
Source: 1997 AACS.

R 325.3153
Source: 1997 AACS.

R 325.3155
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R 325.3157
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R 325.3158
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R 325.3160
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R 325.3161
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R 325.3162
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R 325.3165
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R 325.3166
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R 325.3167
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R 325.3168
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R 325.3169
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R 325.3170
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R 325.3171
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R 325.3172
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R 325.3173
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R 325.3174
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R 325.3176
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R 325.3178
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R 325.3181
Source: 1997 AACS.

R 325.3182
Source: 1997 AACS.

R 325.3184
Source: 1997 AACS.

R 325.3185
Source: 1997 AACS.

R 325.3187
Source: 1997 AACS.

OFFICE OF VITAL AND HEALTH STATISTICS

COMPLETION, FILING, AND REGISTRATION OF VITAL RECORDS DOCUMENTS

R 325.3201
Source: 1981 AACS.

R 325.3202
Source: 1981 AACS.

R 325.3203
Source: 1981 AACS.

R 325.3204
Source: 1981 AACS.

R 325.3205
Source: 1981 AACS.

R 325.3206
Source: 1981 AACS.

R 325.3207
Source: 1981 AACS.

R 325.3208
Source: 1981 AACS.

R 325.3209
Source: 1981 AACS.

R 325.3210
Source: 1981 AACS.

R 325.3211
Source: 1981 AACS.

R 325.3212
Source: 1981 AACS.

R 325.3213
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R 325.3216
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R 325.3217
Source: 1981 AACS.

R 325.3218
Source: 1981 AACS.

R 325.3219
Source: 1981 AACS.

R 325.3220
Source: 1981 AACS.

R 325.3221
Source: 1981 AACS.

VITAL RECORDS INSPECTION AND DISCLOSURE

R 325.3231
Source: 1983 AACS.

R 325.3232
Source: 1983 AACS.

R 325.3233
Source: 1983 AACS.

R 325.3234
Source: 1983 AACS.

R 325.3235
Source: 1983 AACS.

R 325.3236
Source: 1983 AACS.

AMENDMENTS TO VITAL RECORDS

R 325.3251
Source: 1981 AACS.

R 325.3252
Source: 1981 AACS.

R 325.3253
Source: 1981 AACS.

R 325.3254
Source: 1981 AACS.

R 325.3255
Source: 1981 AACS.

R 325.3256
Source: 1981 AACS.

R 325.3257
Source: 1981 AACS.

R 325.3258
Source: 1981 AACS.

R 325.3259
Source: 1981 AACS.

R 325.3260
Source: 1981 AACS.

R 325.3261
Source: 1981 AACS.

R 325.3262
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R 325.3263
Source: 1981 AACS.

R 325.3264
Source: 1981 AACS.

R 325.3265
Source: 1981 AACS.

R 325.3266
Source: 1981 AACS.

R 325.3267
Source: 1981 AACS.

DIVISION OF CHILD HEALTH

HEARING SCREENING AND TESTS

R 325.3271
Source: 2004 AACS.

R 325.3272
Source: 2004 AACS.

R 325.3273
Source: 2004 AACS.

R 325.3274
Source: 2004 AACS.

R 325.3275
Source: 2004 AACS.

R 325.3276
Source: 2004 AACS.

DEPARTMENT OF AGRICULTURE

BUREAU OF ENVIRONMENTAL AND OCCUPATIONAL HEALTH

MOBILE HOME PARKS AND SEASONAL MOBILE HOME PARKS

PART 1. GENERAL PROVISIONS

R 325.3311
Source: 1984 AACS.

R 325.3312
Source: 1980 AACS.

R 325.3313
Source: 1980 AACS.

R 325.3314
Source: 1984 AACS.

PART 2. WATER SUPPLY SYSTEMS

R 325.3321
Source: 1984 AACS.

PART 3. SEWAGE COLLECTION AND DISPOSAL SYSTEMS

R 325.3331
Source: 1984 AACS.

R 325.3332
Source: 1984 AACS.

R 325.3333
Source: 1980 AACS.

R 325.3334
Source: 1984 AACS.

R 325.3335
Source: 1984 AACS.

PART 4. DRAINAGE

R 325.3341
Source: 1984 AACS.

R 325.3342
Source: 1984 AACS.

R 325.3343
Source: 1984 AACS.

R 325.3344
Source: 1980 AACS.

R 325.3345
Source: 1980 AACS.

R 325.3346
Source: 1980 AACS.

R 325.3347
Source: 1984 AACS.

R 325.3348
Source: 1980 AACS.

R 325.3349
Source: 1980 AACS.

PART 5. GARBAGE AND RUBBISH STORAGE AND DISPOSAL

R 325.3351
Source: 1984 AACS.

R 325.3352
Source: 1984 AACS.

R 325.3353
Source: 1984 AACS.

R 325.3354
Source: 1984 AACS.

PART 6. INSECT AND RODENT CONTROL

R 325.3361
Source: 1984 AACS.

R 325.3362
Source: 1984 AACS.

R 325.3363
Source: 1980 AACS.

PART 7. GENERAL OPERATION, MAINTENANCE, AND SAFETY

R 325.3371
Source: 1984 AACS.

R 325.3372
Source: 1984 AACS.

R 325.3373
Source: 1984 AACS.

R 325.3374
Source: 1984 AACS.

PART 8. COORDINATION OF APPROVALS FOR CONSTRUCTION

R 325.3381
Source: 1984 AACS.

R 325.3382
Source: 1984 AACS.

R 325.3383
Source: 1980 AACS.

R 325.3384
Source: 1984 AACS.

R 325.3385
Source: 1984 AACS.

PART 9. CERTIFICATION OF COMPLIANCE

R 325.3391
Source: 1984 AACS.

R 325.3392
Source: 1984 AACS.

R 325.3393
Source: 1984 AACS.

DEPARTMENT OF COMMUNITY HEALTH

BUREAU OF DISEASE CONTROL AND LABORATORY SERVICES

VENEREAL DISEASE

R 325.3401
Source: 1997 AACS.

R 325.3402
Source: 1997 AACS.

R 325.3403
Source: 1997 AACS.

R 325.3404
Source: 1997 AACS.

R 325.3405
Source: 1997 AACS.

R 325.3406
Source: 1997 AACS.

R 325.3407
Source: 1997 AACS.

R 325.3408
Source: 1997 AACS.

R 325.3409
Source: 1997 AACS.

R 325.3410
Source: 1981 AACS.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

OCCUPATIONAL HEALTH STANDARDS COMMISSION

EMPLOYEE MEDICAL RECORDS AND TRADE SECRETS

R 325.3451
Source: 1983 AACS.

R 325.3452
Source: 1998-2000 AACS.

R 325.3453
Source: 1998-2000 AACS.

R 325.3454
Source: 1983 AACS.

R 325.3455
Source: 1983 AACS.

R 325.3456
Source: 1993 AACS.

R 325.3457
Source: 1993 AACS.

R 325.3458
Source: 1983 AACS.

R 325.3459
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R 325.3460
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R 325.3461
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R 325.3462
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R 325.3463
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R 325.3464
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R 325.3465
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R 325.3466
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R 325.3467
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R 325.3468
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R 325.3469

Source: 1983 AACS.

R 325.3470
Source: 1983 AACS.

R 325.3471
Source: 1993 AACS.

R 325.3472
Source: 1993 AACS.

R 325.3472a
Source: 1993 AACS.

R 325.3473
Source: 1993 AACS.

R 325.3474
Source: 1983 AACS.

R 325.3475
Source: 1983 AACS.

R 325.3476
Source: 1998-2000 AACS.

DEPARTMENT OF COMMUNITY HEALTH

BUREAU OF DISEASE CONTROL AND LABORATORY SERVICES

IMMUNIZATIONS IN SCHOOLS, DAY CARE CENTERS, AND CAMPING PROGRAMS

R 325.3501
Source: 1997 AACS.

R 325.3502
Source: 1997 AACS.

R 325.3503
Source: 1997 AACS.

R 325.3504
Source: 1997 AACS.

R 325.3505
Source: 1997 AACS.

R 325.3506
Source: 1997 AACS.

R 325.3507
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R 325.3508
Source: 1997 AACS.

R 325.3509
Source: 1997 AACS.

R 325.3510
Source: 1997 AACS.

R 325.3511
Source: 1997 AACS.

R 325.3512
Source: 1997 AACS.

R 325.3513
Source: 1997 AACS.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES
BUREAU OF ENVIRONMENTAL AND OCCUPATIONAL HEALTH
ASBESTOS CONTRACTOR LICENSING

R 325.3551
Source: 1988 AACS.

R 325.3553
Source: 1988 AACS.

R 325.3555
Source: 1988 AACS.

R 325.3557
Source: 1988 AACS.

R 325.3559
Source: 1988 AACS.

R 325.3561
Source: 1988 AACS.

R 325.3563
Source: 1988 AACS.

R 325.3565
Source: 1988 AACS.

R 325.3567
Source: 1988 AACS.

R 325.3569
Source: 1988 AACS.

R 325.3571
Source: 1988 AACS.

AGRICULTURAL LABOR CAMPS

R 325.3601
Source: 1989 AACS.

R 325.3603
Source: 1989 AACS.

R 325.3605
Source: 1989 AACS.

R 325.3607
Source: 1989 AACS.

R 325.3609
Source: 1989 AACS.

R 325.3611
Source: 1989 AACS.

R 325.3613
Source: 1989 AACS.

R 325.3615
Source: 1989 AACS.

R 325.3617
Source: 1989 AACS.

R 325.3619
Source: 1989 AACS.

R 325.3621
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R 325.3623
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R 325.3625
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R 325.3627
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R 325.3629
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R 325.3631
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R 325.3633
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R 325.3635
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R 325.3637
Source: 1989 AACS.

R 325.3639
Source: 1989 AACS.

R 325.3641
Source: 1989 AACS.

R 325.3643
Source: 1989 AACS.

R 325.3699
Source: 1989 AACS.

DEPARTMENT OF COMMUNITY HEALTH

OFFICE OF THE DIRECTOR

TOXIC SUBSTANCE LOAN PROGRAM

R 325.3701
Source: 1997 AACS.

R 325.3702
Source: 1997 AACS.

R 325.3703
Source: 1997 AACS.

R 325.3704
Source: 1997 AACS.

R 325.3705
Source: 1997 AACS.

R 325.3706
Source: 1997 AACS.

R 325.3707
Source: 1997 AACS.

R 325.3708
Source: 1997 AACS.

R 325.3709
Source: 1997 AACS.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

BUREAU OF HEALTH SYSTEMS

FREESTANDING SURGICAL OUTPATIENT FACILITIES

R 325.3801
Source: 2001 AACS.

R 325.3802
Source: 2001 AACS.

R 325.3803
Source: 2001 AACS.

R 325.3811
Source: 2001 AACS.

R 325.3812

Source: 2001 AACS.

R 325.3815
Source: 2001 AACS.

R 325.3816
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R 325.3817
Source: 2001 AACS.

R 325.3818
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R 325.3819
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R 325.3811
Source: 2001 AACS.

R 325.3826
Source: 2002 AACS.

R 325.3832
Source: 2001 AACS.

R 325.3835
Source: 2001 AACS.

R 325.3851
Source: 2001 AACS.

R 325.3857
Source: 2001 AACS.

R 325.3866
Source: 2001 AACS.

R 325.3867
Source: 2001 AACS.

R 325.3868
Source: 2001 AACS.

R 325.3868a
Source: 2001 AACS.

OFFICE OF SUBSTANCE ABUSE SERVICES

SUBSTANCE ABUSE SERVICES PROGRAMS

R 325.4001
Source: 1997 AACS.

R 325.4002
Source: 1997 AACS.

R 325.4003
Source: 1997 AACS.

R 325.4004
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R 325.4005
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R 325.4006
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R 325.4007
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R 325.4008
Source: 1997 AACS.

R 325.4009
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R 325.4010
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R 325.4011
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R 325.4012
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R 325.4016
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R 325.4019
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R 325.4021
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R 325.4051
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R 325.4067
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R 325.4071
Source: 1997 AACS.

R 325.4081
Source: 1997 AACS.

R 325.4082
Source: 1997 AACS.

R 325.4083
Source: 1997 AACS.

R 325.4084
Source: 1997 AACS.

PROGRAM MATCH REQUIREMENTS

R 325.4151
Source: 1981 AACS.

R 325.4152
Source: 1981 AACS.

R 325.4153
Source: 1981 AACS.

R 325.4154
Source: 1997 AACS.

R 325.4155
Source: 1981 AACS.

R 325.4156
Source: 1981 AACS.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

DIVISION OF RADIOLOGICAL HEALTH

IONIZING RADIATION

PART 14. MAMMOGRAPHY

GENERAL PROVISIONS

R 325.5601
Source: 1993 AACS.

R 325.5602
Source: 1993 AACS.

R 325.5603
Source: 1993 AACS.

MAMMOGRAPHY AUTHORIZATION

R 325.5605

Source: 1993 AACS.

R 325.5606
Source: 1993 AACS.

R 325.5607
Source: 1993 AACS.

R 325.5608
Source: 1993 AACS.

R 325.5609
Source: 1993 AACS.

R 325.5610
Source: 1993 AACS.

R 325.5611
Source: 1993 AACS.

R 325.5612
Source: 1993 AACS.

R 325.5613
Source: 1993 AACS.

MAMMOGRAPHY SUPERVISOR

R 325.5617
Source: 1993 AACS.

R 325.5618
Source: 1993 AACS.

R 325.5619
Source: 1993 AACS.

OPERATORS OF MAMMOGRAPHY EQUIPMENT

R 325.5621
Source: 1993 AACS.

R 325.5622
Source: 1993 AACS.

R 325.5623
Source: 1993 AACS.

R 325.5624
Source: 1993 AACS.

R 325.5625
Source: 1993 AACS.

RADIATION PHYSICIST

R 325.5631
Source: 1993 AACS.

R 325.5632
Source: 1993 AACS.

R 325.5633
Source: 1993 AACS.

X-RAY EQUIPMENT

R 325.5637
Source: 1993 AACS.

R 325.5638
Source: 1993 AACS.

R 325.5639
Source: 1993 AACS.

R 325.5640
Source: 1993 AACS.

R 325.5641
Source: 1993 AACS.

R 325.5642
Source: 1993 AACS.

R 325.5643
Source: 1993 AACS.

R 325.5644
Source: 1993 AACS.

R 325.5645
Source: 1993 AACS.

R 325.5646
Source: 1993 AACS.

R 325.5647
Source: 1993 AACS.

R 325.5648
Source: 1993 AACS.

R 325.5649
Source: 1993 AACS.

R 325.5650
Source: 1993 AACS.

R 325.5651
Source: 1993 AACS.

R 325.5652
Source: 1993 AACS.

R 325.5655
Source: 1993 AACS.

R 325.5656
Source: 1993 AACS.

QUALITY CONTROL

R 325.5659
Source: 1993 AACS.

R 325.5660
Source: 1993 AACS.

R 325.5661
Source: 1993 AACS.

R 325.5662
Source: 1993 AACS.

R 325.5663
Source: 1993 AACS.

R 325.5664
Source: 1993 AACS.

R 325.5665
Source: 1993 AACS.

DEPARTMENT OF ENVIRONMENTAL QUALITY
DRINKING WATER AND RADIOLOGICAL PROTECTION DIVISION
RADIOACTIVE MATERIAL TRANSPORTATION

R 325.5801
Source: 1997 AACS.

R 325.5802
Source: 1997 AACS.

R 325.5803
Source: 1997 AACS.

R 325.5804
Source: 1997 AACS.

R 325.5805
Source: 1997 AACS.

R 325.5806
Source: 1997 AACS.

R 325.5807
Source: 1997 AACS.

R 325.5808
Source: 1997 AACS.

R 325.5809
Source: 1997 AACS.

R 325.5810
Source: 1997 AACS.

BUREAU OF HEALTH CARE ADMINISTRATION

FREESTANDING SURGICAL OUTPATIENT FACILITIES DIFFERENTIATED FROM PRIVATE PRACTICE OFFICES

R 325.6001
Source: 1980 AACS.

R 325.6002
Source: 1980 AACS.

DEPARTMENT OF COMMUNITY HEALTH
AND INSURANCE BUREAU

HEALTH MAINTENANCE ORGANIZATIONS

PART 1. GENERAL PROVISIONS

R 325.6101
Source: 1988 AACS.

R 325.6105
Source: 1988 AACS.

R 325.6110
Source: 1988 AACS.

R 325.6115
Source: 1988 AACS.

R 325.6120
Source: 1997 AACS.

R 325.6125
Source: 1988 AACS.

R 325.6130
Source: 1988 AACS.

R 325.6135
Source: 1988 AACS.

PART 2. STATE ADMINISTRATION

R 325.6201
Source: 1997 AACS.

R 325.6205
Source: 1988 AACS.

R 325.6210
Source: 1988 AACS.

R 325.6215

Source: 1997 AACS.

R 325.6220
Source: 1997 AACS.

R 325.6225
Source: 1997 AACS.

R 325.6230
Source: 1988 AACS.

R 325.6235
Source: 1988 AACS.

R 325.6240
Source: 1988 AACS.

R 325.6245
Source: 1988 AACS.

R 325.6250
Source: 1997 AACS.

R 325.6255
Source: 1997 AACS.

R 325.6260
Source: 1997 AACS.

R 325.6265
Source: 1997 AACS.

R 325.6270
Source: 1988 AACS.

R 325.6275
Source: 1988 AACS.

R 325.6280
Source: 1997 AACS.

R 325.6285
Source: 1988 AACS.

R 325.6290
Source: 1988 AACS.

PART 3. BUSINESS AND OPERATIONAL REQUIREMENTS

R 325.6301
Source: 1988 AACS.

R 325.6305
Source: 1988 AACS.

R 325.6310
Source: 1988 AACS.

R 325.6315

Source: 1988 AACS.

R 325.6320
Source: 1997 AACS.

R 325.6325
Source: 1997 AACS.

R 325.6330
Source: 1988 AACS.

R 325.6335
Source: 1988 AACS.

R 325.6340
Source: 1988 AACS.

R 325.6345
Source: 1988 AACS.

R 325.6350
Source: 1988 AACS.

R 325.6355
Source: 1988 AACS.

R 325.6360
Source: 1988 AACS.

R 325.6365
Source: 1988 AACS.

PART 4. SUBSCRIBER CONTRACTS, COVERAGE, AND RELATED REQUIREMENTS

R 325.6401
Source: 1988 AACS.

R 325.6405
Source: 1988 AACS.

R 325.6410
Source: 1988 AACS.

R 325.6415
Source: 1988 AACS.

R 325.6420
Source: 1988 AACS.

R 325.6425
Source: 1988 AACS.

R 325.6430
Source: 1988 AACS.

PART 5. MARKETING AND ENROLLMENT

R 325.6501
Source: 1988 AACS.

R 325.6505
Source: 1988 AACS.

R 325.6510
Source: 1988 AACS.

R 325.6515
Source: 1997 AACS.

PART 6. STANDARDS FOR SERVICES, STAFFING, QUALITY ASSURANCE, AND UTILIZATION REVIEW

R 325.6601
Source: 1988 AACS.

R 325.6605
Source: 1988 AACS.

R 325.6610
Source: 1988 AACS.

R 325.6615
Source: 1988 AACS.

R 325.6620
Source: 1988 AACS.

R 325.6625
Source: 1988 AACS.

R 325.6635
Source: 1988 AACS.

PART 7. FACILITY STANDARDS

R 325.6701
Source: 1988 AACS.

R 325.6702
Source: 1988 AACS.

R 325.6705
Source: 1997 AACS.

R 325.6710
Source: 1991 AACS.

R 325.6715
Source: 1988 AACS.

R 325.6720
Source: 1988 AACS.

R 325.6725
Source: 1988 AACS.

R 325.6730
Source: 1988 AACS.

R 325.6735
Source: 1988 AACS.

R 325.6740
Source: 1988 AACS.

R 325.6745
Source: 1988 AACS.

R 325.6750
Source: 1988 AACS.

R 325.6755
Source: 1988 AACS.

R 325.6760
Source: 1997 AACS.

R 325.6765
Source: 1997 AACS.

R 325.6770
Source: 1997 AACS.

R 325.6775
Source: 1997 AACS.

R 325.6780
Source: 1988 AACS.

R 325.6785
Source: 1988 AACS.

R 325.6790
Source: 1988 AACS.

R 325.6795
Source: 1988 AACS.

PART 8. ENROLLEE CLINICAL RECORDS; REPORTS AND INSPECTIONS

R 325.6801
Source: 1988 AACS.

R 325.6805
Source: 1988 AACS.

R 325.6810
Source: 1988 AACS.

R 325.6815
Source: 1988 AACS.

R 325.6820
Source: 1997 AACS.

R 325.6825
Source: 1988 AACS.

R 325.6830
Source: 1988 AACS.

R 325.6835
Source: 1988 AACS.

PART 9. HEALTH MAINTENANCE ORGANIZATION INCLUSION IN HEALTH BENEFIT PLANS

R 325.6901
Source: 1988 AACS.

R 325.6905
Source: 1988 AACS.

R 325.6910
Source: 1988 AACS.

R 325.6925
Source: 1988 AACS.

R 325.6930
Source: 1988 AACS.

R 325.6935
Source: 1988 AACS.

R 325.6950
Source: 1988 AACS.

R 325.6955
Source: 1988 AACS.

R 325.6960
Source: 1988 AACS.

R 325.6965
Source: 1997 AACS.

DEPARTMENT OF COMMUNITY HEALTH

OFFICE OF VITAL AND HEALTH STATISTICS

DISINTERMENT—REINTERMENT

R 325.8051
Source: 1982 AACS.

R 325.8052
Source: 1982 AACS.

R 325.8053
Source: 1982 AACS.

R 325.8054
Source: 1982 AACS.

R 325.8055
Source: 1982 AACS.

R 325.8056
Source: 1982 AACS.

R 325.8057
Source: 1982 AACS.

LABORATORY AND EPIDEMIOLOGICAL SERVICES ADMINISTRATION

DISEASE SURVEILLANCE AND CONTROL

R 325.9001
Source: 1997 AACS.

R 325.9002
Source: 1997 AACS.

R 325.9003
Source: 1997 AACS.

R 325.9004
Source: 1997 AACS.

R 325.9005
Source: 1997 AACS.

R 325.9006
Source: 1997 AACS.

R 325.9007
Source: 1997 AACS.

R 325.9008
Source: 1997 AACS.

R 325.9009
Source: 1997 AACS.

R 325.9010
Source: 1997 AACS.

R 325.9011
Source: 1997 AACS.

R 325.9012
Source: 1981 AACS.

BUREAU OF LABORATORY AND EPIDEMIOLOGICAL SERVICES

DEFINITION OF “INFECTIOUS AGENT”

R 325.9031
Source: 1987 AACS.

DIVISION OF RESEARCH AND DEVELOPMENT

CHRONIC DISEASE PREVENTION AND CONTROL LIST

R 325.9041
Source: 1989 AACS.

OFFICE OF THE STATE REGISTRAR AND CENTER FOR HEALTH STATISTICS

CANCER REPORTING

R 325.9050
Source: 2004 AACS.

R 325.9051
Source: 2004 AACS.

R 325.9052
Source: 2004 AACS.

R 325.9053
Source: 1985 AACS.

R 325.9054
Source: 1985 AACS.

R 325.9055
Source: 1985 AACS.

R 325.9056
Source: 1985 AACS.

R 325.9057
Source: 1985 AACS.

CENTER FOR HEALTH PROMOTION

SPINAL CORD AND TRAUMATIC BRAIN INJURY REPORTING

R 325.9061
Source: 1993 AACS.

R 325.9062
Source: 1993 AACS.

R 325.9063
Source: 1993 AACS.

R 325.9064
Source: 1993 AACS.

R 325.9065
Source: 1993 AACS.

R 325.9066
Source: 1993 AACS.

R 325.9067

Source: 1993 AACS.

BIRTH DEFECTS REPORTING

R 325.9071
Source: 1991 AACS.

R 325.9072
Source: 1991 AACS.

R 325.9073
Source: 1991 AACS.

R 325.9074
Source: 1991 AACS.

R 325.9075
Source: 1991 AACS.

R 325.9076
Source: 1991 AACS.

HEALTH LEGISLATION AND POLICY DEVELOPMENT

BLOOD LEAD ANALYSIS REPORTING

R 325.9081
Source: 1997 AACS.

R 325.9082
Source: 1997 AACS.

R 325.9083
Source: 1997 AACS.

R 325.9084 Electronic communications.
Rule 4. (1) A clinical laboratory shall submit the data required in R 325.9083 electronically to the agency.
(2) For electronic reporting, upon mutual agreement between the reporting laboratory and the agency, the reporting shall utilize the data format specifications provided by the agency.
History: 1997 MR 9, Eff. Sep. 30, 1997; 2006 MR 4, Eff. Feb. 22, 2006.

R 325.9085
Source: 1997 AACS.

R 325.9086 Confidentiality of reports.
Rule 6. (1) Except as provided in subrule (2) of this rule, the agency shall maintain the confidentiality of all reports of blood lead tests submitted to the agency and shall not release reports or information that may be used to directly link the information to a particular individual.
(2) The agency may release reports or information, otherwise protected under subrule (1) of this rule under 1 of the following conditions:
(a) If the agency has received written consent from the individual, or from the individual's parent or legal guardian, requesting the release of information.
(b) If necessary for law enforcement investigation or prosecution of a property manager, housing commission, or owner of a rental unit under 2004 PA 434, MCL 333.5475a.
(c) If the director of the department determines that release is crucial to protect the public health against imminent threat or danger.
(3) Medical and epidemiological information that is released to a legislative body shall not contain information that

identifies a specific individual. Aggregate epidemiological information concerning the public health that is released to the public for informational purposes only shall not contain information that identifies a specific individual.
History: 1997 MR 9, Eff. Sep. 30, 1997; 2006 MR 4, Eff. Feb. 22, 2006.

R 325.9087
Source: 1997 AACS.

BUREAU OF HEALTH SYSTEMS

CERTIFICATE OF NEED

PART 1. GENERAL PROVISIONS

R 325.9101
Source: 1996 AACS.

R 325.9103
Source: 1996 AACS.

R 325.9105
Source: 1996 AACS.

R 325.9109
Source: 1996 AACS.

R 325.9121
Source: 1996 AACS.

R 325.9123
Source: 1996 AACS.

R 325.9125
Source: 1996 AACS.

PART 2. LETTERS OF INTENT; APPLICATIONS; REVIEWS

R 325.9201
Source: 1996 AACS.

R 325.9203
Source: 1996 AACS.

R 325.9204
Source: 1996 AACS.

R 325.9205
Source: 1996 AACS.

R 325.9206
Source: 1996 AACS.

R 325.9207
Source: 1996 AACS.

R 325.9208
Source: 1996 AACS.

R 325.9215

Source: 1996 AACS.

R 325.9227
Source: 1996 AACS.

R 325.9229
Source: 1996 AACS.

PART 3. APPROVAL AND ISSUANCE; DISAPPROVAL

R 325.9301
Source: 1996 AACS.

R 325.9303
Source: 1996 AACS.

PART 4. TERMS AND CONDITIONS

R 325.9401
Source: 1986 AACS.

R 325.9403
Source: 1996 AACS.

R 325.9413
Source: 1996 AACS.

R 325.9415
Source: 1996 AACS.

R 325.9417
Source: 1996 AACS.

R 325.9419
Source: 1996 AACS.

PART 5. ADMINISTRATIVE HEARINGS

R 325.9501
Source: 1996 AACS.

R 325.9503
Source: 1996 AACS.

R 325.9505
Source: 1986 AACS.

R 325.9507
Source: 1996 AACS.

R 325.9509
Source: 1996 AACS.

R 325.9511
Source: 1996 AACS.

R 325.9513
Source: 1996 AACS.

R 325.9515
Source: 1996 AACS.

R 325.9517
Source: 1996 AACS.

R 325.9519
Source: 1996 AACS.

R 325.9521
Source: 1996 AACS.

R 325.9523
Source: 1996 AACS.

R 325.9525
Source: 1996 AACS.

DEPARTMENT OF COMMUNITY HEALTH

HEALTH LEGISLATION AND POLICY DEVELOPMENT

LEAD HAZARD REMEDIATION

R 325.9901
Source: 2005 AACS.

R 325.9902
Source: 2005 AACS.

R 325.9903
Source: 2005 AACS.

R 325.9904
Source: 2005 AACS.

R 325.9905
Source: 2005 AACS.

R 325.9906
Source: 2005 AACS.

R 325.9907
Source: 2005 AACS.

R 325.9908
Source: 2005 AACS.

R 325.9909
Source: 2005 AACS.

R 325.9910
Source: 2005 AACS.

R 325.9911
Source: 2005 AACS.

R 325.9912
Source: 2005 AACS.

R 325.9913
Source: 2005 AACS.

R 325.9914
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R 325.9915
Source: 2005 AACS.

R 325.9916
Source: 2005 AACS.

R 325.9917
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R 325.9918
Source: 2005 AACS.

R 325.9919
Source: 2005 AACS.

R 325.9920
Source: 2005 AACS.

R 325.9921
Source: 2005 AACS.

R 325.9922
Source: 2005 AACS.

R 325.9923
Source: 2005 AACS.

R 325.9924
Source: 2005 AACS.

R 325.9925
Source: 2005 AACS.

HEALTH SERVICES ADMINISTRATION

SUPPLYING WATER TO THE PUBLIC

R 325.10102
Source: 2003 AACS.

R 325.10103
Source: 2003 AACS.

R 325.10104
Source: 2005 AACS.

R 325.10105
Source: 2003 AACS.

R 325.10106
Source: 2003 AACS.

R 325.10107
Source: 2005 AACS.

R 325.10108
Source: 2003 AACS.

R 325.10109
Source: 2003 AACS.

R 325.10110
Source: 1998-2000 AACS.

R 325.10111
Source: 1998-2000 AACS.

R 325.10112
Source: 2002 AACS.

R 325.10113
Source: 1998-2000 AACS.

R 325.10116
Source: 2002 AACS.

PART 3. VARIANCES AND EXEMPTIONS

R 325.10303
Source: 1991 AACS.

R 325.10304
Source: 1991 AACS.

R 325.10306
Source: 1991 AACS.

R 325.10308a
Source: 1984 AACS.

R 325.10308b
Source: 2005 AACS.

PART 4. PUBLIC NOTIFICATION AND PUBLIC EDUCATION

R 325.10401
Source: 2003 AACS.

R 325.10401a
Source: 2005 AACS.

R 325.10402
Source: 2003 AACS.

R 325.10403
Source: 2003 AACS.

R 325.10404

Source: 2003 AACS.

R 325.10405
Source: 2005 AACS.

R 325.10406
Source: 2003 AACS.

R 325.10407
Source: 2003 AACS.

R 325.10408
Source: 2003 AACS.

R 325.10408a
Source: 2003 AACS.

R 325.10408b
Source: 2005 AACS.

R 325.10409
Source: 2003 AACS.

R 325.10410
Source: 2002 AACS.

R 325.10411
Source: 2003 AACS.

R 325.10412
Source: 2003 AACS.

R 325.10413
Source: 2003 AACS.

R 325.10414
Source: 2005 AACS.

R 325.10415
Source: 2003 AACS.

R 325.10416.
Source: 2003 AACS.

R 325.10417
Source: 2003 AACS.

R 325.10418
Source: 2003 AACS.

R 325.10419
Source: 2003 AACS.

R 325.10420
Source: 2003 AACS.

PART 5. TYPES OF PUBLIC WATER SUPPLIES

R 325.10505

Source: 1991 AACS.

R 325.10506
Source: 1991 AACS.

PART 6. STATE DRINKING WATER STANDARDS AND ANALYTICAL TECHNIQUES

R 325.10601
Source: 1998-2000 AACS.

R 325.10601a
Source: 1998-2000 AACS.

R 325.10602
Source: 1993 AACS.

R 325.10603
Source: 2005 AACS.

R 325.10604
Source: 2005 AACS.

R 325.10604a
Source: 2003 AACS.

R 325.10604b
Source: 2005 AACS.

R 325.10604c
Source: 2005 AACS.

R 325.10604d
Source: 2005 AACS.

R 325.10604e
Source: 1993 AACS.

R 325.10604f
Source: 2002 AACS.

R 325.10605
Source: 2005 AACS.

R 325.10605a
Source: 1998-2000 AACS.

R 325.10605b
Source: 1998-2000 AACS.

R 325.10605c
Source: 1998-2000 AACS.

R 325.10605d
Source: 1998-2000 AACS.

R 325.10605e
Source: 1998-2000 AACS.

R 325.10606

Source: 1998-2000 AACS.

R 325.10607
Source: 1998-2000 AACS.

R 325.10608
Source: 1998-2000 AACS.

R 325.10609
Source: 1998-2000 AACS.

R 325.10610
Source: 2005 AACS.

R 325.10610a
Source: 2003 AACS.

R 325.10610b
Source: 2003 AACS.

R 325.10610c
Source: 2003 AACS.

R 325.10611
Source: 2005 AACS.

R 325.10611a
Source: 2003 AACS.

R 325.10611b
Source: 2005 AACS.

R 325.10611c
Source: 2005 AACS.

PART 7. SURVEILLANCE, INSPECTION, AND MONITORING

R 325.10702
Source: 2003 AACS.

R 325.10704
Source: 2003 AACS.

R 325.10705
Source: 2002 AACS.

R 325.10706
Source: 2003 AACS.

R 325.10707
Source: 1991 AACS.

R 325.10707a
Source: 1998-2000 AACS.

R 325.10707b
Source: 2003 AACS.

R 325.10708

Source: 1991 AACS.

R 325.10709
Source: 1998-2000 AACS.

R 325.10710
Source: 2005 AACS.

R 325.10710a
Source: 2002 AACS.

R 325.10710b
Source: 2002 AACS.

R 325.10710c
Source: 2002 AACS.

R 325.10710d
Source: 2002 AACS.

R 325.10711
Source: 1997 AACS.

R 325.10712
Source: 1997 AACS.

R 325.10713
Source: 1997 AACS.

R 325.10714
Source: 1997 AACS.

R 325.10715
Source: 1997 AACS.

R 325.10716
Source: 2005 AACS.

R 325.10717
Source: 2005 AACS.

R 325.10717a
Source: 1997 AACS.

R 325.10717b
Source: 2005 AACS.

R 325.10717c
Source: 1993 AACS.

R 325.10718
Source: 1997 AACS.

R 325.10719
Source: 2003 AACS.

R 325.10719a
Source: 2005 AACS.

R 325.10719b
Source: 2005 AACS.

R 325.10719c
Source: 2005 AACS.

R 325.10719d
Source: 2005 AACS.

R 325.10719e
Source: 2003 AACS.

R 325.10719f
Source: 2003 AACS.

R 325.10720
Source: 2005 AACS.

R 325.10720a
Source: 2005 AACS.

R 325.10721
Source: 2003 AACS.

R 325.10722
Source: 2005 AACS.

R 325.10724
Source: 1997 AACS.

R 325.10725
Source: 2005 AACS.

R 325.10726
Source: 2005 AACS.

R 325.10728
Source: 2005 AACS.

R 325.10729
Source: 2005 AACS.

R 325.10730
Source: 2005 AACS.

R 325.10734
Source: 2002 AACS.

R 325.10736
Source: 2002 AACS.

R 325.10737
Source: 1997 AACS.

R 325.10738
Source: 2002 AACS.

PART 8. GROUNDWATER SOURCES

R 325.10822
Source: 1991 AACS.

R 325.10831
Source: 1991 AACS.

R 325.10833
Source: 1997 AACS.

PART 10. TREATMENT SYSTEMS AND PUMPING FACILITIES

R 325.11002
Source: 2003 AACS.

R 325.11004
Source: 2003 AACS.

R 325.11008
Source: 2003 AACS.

R 325.11009
Source: 2003 AACS.

PART 11. DISTRIBUTION SYSTEMS AND STORAGE TANKS

R 325.11110
Source: 1991 AACS.

R 325.11117
Source: 1991 AACS.

PART 14. CROSS-CONNECTIONS

R 325.11404
Source: 1998-2000 AACS.

R 325.11405
Source: 1998-2000 AACS.

R 325.11406
Source: 1998-2000 AACS.

PART 15. OPERATION REPORTS AND RECORDKEEPING

R 325.11502
Source: 2003 AACS.

R 325.11503
Source: 2003 AACS.

R 325.11505a
Source: 2003 AACS.

R 325.11506
Source: 2005 AACS.

PART 19. EXAMINATION AND CERTIFICATION OF OPERATORS

R 325.11901
Source: 1998-2000 AACS.

R 325.11902
Source: 1998-2000 AACS.

R 325.11903
Source: 1998-2000 AACS.

R 325.11904
Source: 1998-2000 AACS.

R 325.11905
Source: 1998-2000 AACS.

R 325.11906
Source: 1998-2000 AACS.

R 325.11906a
Source: 1998-2000 AACS.

R 325.11906b
Source: 1998-2000 AACS.

R 325.11907
Source: 1991 AACS.

R 325.11908
Source: 1998-2000 AACS.

R 325.11909
Source: 1991 AACS.

R 325.11910
Source: 1998-2000 AACS.

R 325.11911
Source: 1998-2000 AACS.

R 325.11912
Source: 1998-2000 AACS.

R 325.11913
Source: 1998-2000 AACS.

R 325.11914
Source: 1998-2000 AACS.

R 325.11915
Source: 1998-2000 AACS.

R 325.11915a
Source: 1998-2000 AACS.

R 325.11916
Source: 1997 AACS.

R 325.11917
Source: 1998-2000 AACS.

PART 27. LABORATORY CERTIFICATION

R 325.12701
Source: 1994 AACS.

R 325.12702
Source: 2005 AACS.

R 325.12705
Source: 2005 AACS.

R 325.12706
Source: 2005 AACS.

PART 28. WELLHEAD PROTECTION GRANT ASSISTANCE

R. 325.12801
Source: 1998-2000 AACS.

R 325.12802
Source: 1998-2000 AACS.

R 325.12803
Source: 1998-2000 AACS.

R 325.12804
Source: 1998-2000 AACS.

R 325.12805
Source: 1998-2000 AACS.

R 325.12806
Source: 1998-2000 AACS.

R 325.12807
Source: 1998-2000 AACS.

R 325.12808
Source: 1998-2000 AACS.

R 325.12809
Source: 1998-2000 AACS.

R 325.12810
Source: 1998-2000 AACS.

R 325.12811
Source: 1998-2000 AACS.

R 325.12812
Source: 1998-2000 AACS.

R 325.12813
Source: 1998-2000 AACS.

R 325.12814
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R 325.12815
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R 325.12816
Source: 1998-2000 AACS.

R 325.12817
Source: 1998-2000 AACS.

R 325.12818
Source: 1998-2000 AACS.

R 325.12819
Source: 1998-2000 AACS.

R 325.12820
Source: 1998-2000 AACS.

DEPARTMENT OF COMMUNITY HEALTH

OFFICE OF LOCAL HEALTH SERVICES

LOCAL HEALTH PERSONNEL

R 325.13001
Source: 1980 AACS.

R 325.13002
Source: 1980 AACS.

R 325.13003
Source: 1980 AACS.

R 325.13004
Source: 1980 AACS.

R 325.13005
Source: 1980 AACS.

R 325.13006
Source: 1980 AACS.

R 325.13007
Source: 1980 AACS.

R 325.13008
Source: 1980 AACS.

R 325.13009
Source: 1980 AACS.

COST-SHARED SERVICES

R 325.13051
Source: 1981 AACS.

R 325.13053
Source: 1981 AACS.

R 325.13055
Source: 1981 AACS.

R 325.13057
Source: 1981 AACS.

R 325.13059
Source: 1981 AACS.

R 325.13061
Source: 1981 AACS.

R 325.13063
Source: 1981 AACS.

R 325.13065
Source: 1981 AACS.

R 325.13067
Source: 1981 AACS.

R 325.13069
Source: 1981 AACS.

R 325.13071
Source: 1981 AACS.

DIVISION OF CHILD HEALTH

VISION SCREENING AND TESTING

R 325.13091
Source: 2004 AACS.

R 325.13092
Source: 2004 AACS.

R 325.13093
Source: 1981 AACS.

R 325.13094
Source: 2004 AACS.

R 325.13095
Source: 1981 AACS.

R 325.13096
Source: 1981 AACS.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

BUREAU OF HEALTH FACILITIES

HOSPICE

PART 1. GENERAL PROVISIONS

R 325.13101
Source: 2003 AACS.

R 325.13102
Source: 2003 AACS.

R 325.13104
Source: 2003 AACS.

R 325.13105
Source: 2003 AACS.

R 325.13106
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R 325.13107
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R 325.13108
Source: 2003 AACS.

R 325.13109
Source: 2003 AACS.

R 325.13110
Source: 2003 AACS.

R 325.13111
Source: 2003 AACS.

PART 2. LICENSURE

R 325.13201
Source: 2003 AACS.

R 325.13202
Source: 2003 AACS.

R 325.13203
Source: 1984 AACS.

R 325.13204
Source: 1984 AACS.

R 325.13205
Source: 2003 AACS.

R 325.13206
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R 325.13207
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R 325.13208
Source: 2003 AACS.

R 325.13209

Source: 2003 AACS.

R 325.13210
Source: 1984 AACS.

R 325.13211
Source: 2003 AACS.

R 325.13212
Source: 2003 AACS.

R 325.13213
Source: 2003 AACS.

PART 3. SERVICES

R 325.13301
Source: 2003 AACS.

R 325.13302
Source: 2003 AACS.

R 325.13303
Source: 2003 AACS.

R 325.13304
Source: 2003 AACS.

R 325.13305
Source: 2003 AACS.

R 325.13306
Source: 2003 AACS.

R 325.13307
Source: 2003 AACS.

PART 4. HEARING PROCEDURE

R 325.13401
Source: 2003 AACS.

R 325.13402
Source: 2003 AACS.

R 325.13403
Source: 2003 AACS.

R 325.13404
Source: 2003 AACS.

R 325.13405
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R 325.13406
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R 325.13407
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R 325.13408
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R 325.13409
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R 325.13410
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R 325.13411
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R 325.13412
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R 325.13413
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R 325.13414
Source: 2003 AACS.

R 325.13415
Source: 2003 AACS.

R 325.13416
Source: 2003 AACS.

R 325.13417
Source: 2003 AACS.

R 325.13418
Source: 2003 AACS.

PART 5. HOSPICE RESIDENCES PROVIDING CARE ONLY AT THE HOME CARE LEVEL

R 325.13501
Source: 2003 AACS.

R 325.13503
Source: 2003 AACS.

R 325.13505
Source: 2003 AACS.

R 325.13507
Source: 2003 AACS.

R 325.13509
Source: 2003 AACS.

R 325.13511
Source: 2003 AACS.

R 325.13513
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R 325.13515

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R 325.13517
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R 325.13519
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R 325.13521
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R 325.13523
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R 325.13525
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R 325.13527
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R 325.13529
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R 325.13531
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R 325.13533
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R 325.13535
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R 325.13537
Source: 2003 AACS.

R 325.13539
Source: 2003 AACS.

R 325.13541
Source: 2003 AACS.

R 325.13543
Source: 2003 AACS.

DEPARTMENT OF COMMUNITY HEALTH

OFFICE OF SUBSTANCE ABUSE SERVICES

SUBSTANCE ABUSE SERVICE PROGRAM

PART 1. GENERAL PROVISIONS

R 325.14101 Definitions; A to D.
Rule 101. As used in these rules:
(a) "Act" means 1978 PA 368, MCL 333.1101 et seq.
(b) "Administrative record" means the formal written documents that record administrative actions of a governing authority, including minutes of meetings, resolutions, and guidelines.
(c) "Admission" means the point at which an individual is formally accepted into a substance use disorder service program and services are initiated.

(d) "Aftercare" means the process of providing continued services to a client which support and increase the gains made during treatment.
(e) "Casefinding" means the process of systematically interacting with the community for the purposes of identifying persons in need of services, alerting persons and their families to the availability of services, locating needed services, and enabling persons to enter the service delivery system.
(f) "Casefinding--screening and assessment, referral, follow-up" or "SARF" means the performance of a range of activities necessary to make preliminary assessments of problems. The object of these activities, which may include interviews, psychological tests, and other diagnostic or assessment tools, is to effect referrals to appropriate treatment or assistance resources if indicated.
(g) "Case Management" means a substance use disorder case management program that coordinates, plans, provides, evaluates and monitors services or recovery from a variety of resources on behalf of and in collaboration with a client who has a substance use disorder. A substance use disorder case management program offers these services through designated staff working in collaboration with the substance use disorder treatment team and as guided by the individualized treatment planning process.
(h) "Detoxification treatment" means a medically acute or subacute, systematic reduction of the amount of a drug in the body, or the elimination of a drug from the body concomitant with supportive treatment services.
(i) "Discharge" means the point at which the client's active involvement with a substance use disorder service is terminated and the program no longer maintains active responsibility for services to the client.
History: 1979 ACS 7, Eff. Sept. 10, 1981; 2006 MR 13, Eff. July 5, 2006.

R 325.14102 Definitions; E to Q.
Rule 102. As used in these rules:
(a) "Early intervention" means a specifically focused treatment program including stage-based intervention for individuals with substance use disorders as identified through a screening or assessment process including individuals who may not meet the threshold of abuse or dependence.
(b) "Follow-up" means activities designed to determine the present status of persons previously discharged by a program or referred by that program to services from another program.
(c) "Full time" means employment of not less than 35 hours per week.
(d) "Inpatient care" means substance use disorder treatment services that are provided to persons within a hospital setting under medical supervision.
(e) "Integrated treatment for persons with mental health and substance use disorders" means a program that offers and provides both substance use disorder and mental health treatment in an integrated manner as evidenced by staffing, services and program content. The program is designed for individuals determined through an assessment process to have both distinct substance use and mental health disorders. Services must be provided through one service setting and through a single treatment plan and represent appropriate clinical standards including stage-based interventions. Programs that focus primarily on one disorder but are able to address the interaction between the disorders and/or coordinate services with other providers do not require a service category license as an integrated treatment program. Inpatient care may include both emergency services and nonemergency services.
(f) "Intimate parts" means the primary genital area, groin, inner thigh, buttock, or female breast of a human being.
(g) "Maintenance treatment" means the use of relatively stable dosages of the drugs methadone, levo-alpha-acetylmethadol (LAAM), or propoxyphene napsylate (Darvon-N) as oral substitutes for heroin or other morphine-like drugs for an individual dependent on heroin on a continuing basis for more than 21 days and in conjunction with the provision of appropriate rehabilitative social and medical services.
(h) "Methadone treatment" means chemotherapy using the drugs methadone or LAAM (levo-alpha-acetylmethadol) as rehabilitation tools in conjunction with other treatment and rehabilitation care.
(i) "Outpatient care" means scheduled, periodic care, including diagnosis and therapy, in a nonresidential setting. Correctional institutions are considered nonresidential settings.
(j) "Peer recovery and recovery support" means recovery support programs that are designed to support and promote recovery and prevent relapse through supportive services that result in the knowledge and skills necessary for an individual's recovery. Peer recovery programs are designed and delivered primarily by individuals in recovery and offer social emotional and/or educational supportive services to help prevent relapse and promote recovery.
(k) "Prevention" means services that reduce the risk that an individual will develop problems which might require that the individual enter the substance use disorder treatment system.
(l) "Prevention CAIT" means a prevention service that provides at least 1 of the following services:
(i) Community change.
(ii) Alternatives.

(iii) Information.
(iv) Training.
(m) "Prevention-community change" means planned efforts which are designed to change specific conditions so as to reduce the probability that substance use problems will occur among residents of the community.
(n) "Prevention-information" means providing information to the public which is designed to reduce the risk that an individual will develop problems which might require that he or she enter the substance use disorders treatment system.
(o) "Prevention-problem assistance" means helping a person with an acute personal problem involving or related to substance use disorders to reduce the risk that the person might be required to enter the substance use disorders treatment system.
(p) "Prevention-training" means providing activities which are designed to improve the personal and social skills of a person who wishes to avoid substance use problems or who is in a position to help others avoid problems with substance use.
(q) "Program director" means an individual who is appointed by the governing authority of the program or its authorized agent to act on its behalf in the overall management of the program.
(r) "Qualified handicapped," in relation to employment, means a handicapped person who, with reasonable accommodation, can perform the essential functions of the job in question. In relation to substance use disorders services, "qualified handicapped" means a handicapped person who meets the eligibility requirements for the receipt of substance use disorders services.
History: 1979 ACS 7, Eff. Sept. 10, 1981; 2006 MR 13, Eff. July 5, 2006.

R 325.14103 Definitions; R to T.
Rule 103. (1) As used in these rules:
(a) "Recipient" means an individual who receives services from a licensed substance use disorders program in the state of Michigan. "Client" is synonymous with "recipient" when used in these rules.
(b) "Recipient abuse" means either of the following:
(i) An intentional act by a staff member which inflicts physical injury upon a recipient or which results in sexual contact with a recipient.
(ii) A communication made by a staff member to a recipient, the purpose of which is to curse, vilify, intimidate, or degrade a recipient or to threaten a recipient with physical injury.
(c) "Recipient neglect" means that a recipient suffers injury, temporarily or permanently, because the staff or other person responsible for the recipient's health or welfare has been found negligent.
(d) "Residential care" means substance use disorders services that are provided in a full or partial residential setting. Such services may be supplemented with diagnostic services, counseling, vocational rehabilitation, work therapy, or other services which are judged to be valuable to clients in a therapeutic setting.
(e) "Sexual contact" means the intentional touching, by a staff member, of the recipient's intimate parts or the intentional touching of the clothing covering the immediate area of the recipient's intimate parts, if that intentional touching can reasonably be construed as being for the purpose of sexual arousal or gratification.
(f) "Staff" means an individual who is not a client and who works, with or without remuneration, for a licensed substance use disorders program.
(g) "Substance use disorder program" means a public or private firm, association, organization, or group offering or purporting to offer specific substance use disorders treatment, rehabilitation, casefinding, or prevention services. "Program" is synonymous with "substance use disorders program" when used in these rules. Substance use disorders program does not include those activities necessary for the purposes of determining eligibility, authorization and/or administration of the substance abuse services system.
(h) "Substance" means a chemical, including alcohol and other drugs, which, upon entering a human body, alters the body's physical or psychological status, or both.
(i) "Substantial violation" means an infraction of a rule or of a provision of the act which is damaging to the intent of the rule or provision of the act and which may be evidenced by any 1 of the following:
(i) The violation is continuing, repetitive, intentional, or has proved damaging to specific clients.
(ii) The violation is likely to result in damage to clients.
(iii) The violation is likely to retard or prevent progress in client rehabilitation.
(iv) The violation does not closely conform to essential components of a rule.
(j) "Termination" means the point at which the client's active
involvement with a substance use disorders service is discontinued by the program and the program no longer maintains active responsibility for services to the client.
(k) "Triage" means the prompt evaluation of all incoming patients to determine the nature of the problem and the level of

urgency, to identify the kind of service needed, and to assign for attention.
(2) The terms defined in the act have the same meaning when used in these rules.
History: 1979 ACS 7, Eff. Sept. 10, 1981; 2006 MR 13, Eff. July 5, 2006.

R 325.14104
Source: 1981 AACS.

R 325.14105
Source: 1981 AACS.

R 325.14106
Source: 1981 AACS.

R 325.14107
Source: 1981 AACS.

R 325.14108
Source: 1981 AACS.

R 325.14109
Source: 1981 AACS.

R 325.14110
Source: 1981 AACS.

R 325.14111
Source: 1981 AACS.

R 325.14112
Source: 1981 AACS.

R 325.14113
Source: 1981 AACS.

R 325.14114
Source: 1981 AACS.

R 325.14115
Source: 1981 AACS.

R 325.14116
Source: 1988 AACS.

R 325.14117
Source: 1981 AACS.

R 325.14125
Source: 1981 AACS.

PART 2. LICENSURE OF SUBSTANCE ABUSE PROGRAMS

R 325.14201
Source: 1981 AACS.

R 325.14202
Source: 1981 AACS.

R 325.14203

Source: 1981 AACS.

R 325.14204
Source: 1981 AACS.

R 325.14205
Source: 1981 AACS.

R 325.14206
Source: 1981 AACS.

R 325.14207
Source: 1981 AACS.

R 325.14208 Service categories.
Rule 208. (1) A single license shall be issued to a qualifying substance use disorder program. The following are categories of service for which programs are licensed:
(a) Prevention--CAIT. To receive a CAIT license, a program shall provide 1 or more of the following CAIT services:
(i) Community change.
(ii) Alternatives.
(iii) Information and training.
(b) Casefinding--SARF. To receive a SARF license, a program shall provide all of the following SARF services:
(i) Screening and assessment.
(ii) Referral.
(iii) Follow-up.
(c) Inpatient.
(d) Residential.
(e) Outpatient.
(f) Case management.
(g) Integrated treatment.
(h) Early intervention.
(i) Peer recovery and support.
(2) A program shall be limited to providing only those services endorsed on the face of the license.
(3) Before starting an additional service categorywhich is not shown on a program's existing license, a program shall obtain the office's approval. The office shall determine whether a new license application shall be submitted.
History:1979 ACS 7, Eff. Sept. 10, 1981; 2006 MR 13, Eff. July 5, 2006.

R 325.14209
Source: 1981 AACS.

R 325.14210
Source: 1981 AACS.

R 325.14211
Source: 1981 AACS.

R 325.14212
Source: 1981 AACS.

R 325.14213 Prohibited entities; waivers.
Rule 213. (1) A city, single county, or multicounty coordinating agency designated by the administrator shall not be licensed under these rules and shall not establish, maintain, conduct, or take part in, the operation of a substance use disorder program.
(2) A request for a waiver to allow a coordinating agency to provide substance use disorder treatment rehabilitation or prevention services shall be made to the office by a coordinating agency. Specific situations for which such a waiver will be considered include all of the following:
(a) Emergencies. If an established, licensed, substance use disorder program unexpectedly and suddenly terminates

operation in such a manner as to jeopardize the protection and well-being of clients receiving services from the program, a waiver may be issued on an interim basis until the well-being of the clients is insured through alternative services.
(b) Lack of operating service providers. If a licensed service provider does not exist in a geographical area to provide services for which the coordinating agency has shown a documented need and no providers can be found, a waiver may be considered.A request for waiver under these circumstances shall contain information as to the steps being taken to develop a licensed service provider in the geographical area. If attempts to develop a provider have been made and a provider cannot be found, and if the coordinating agency intends to continue to provide services, a plan to transfer coordinating agency designation to another agency shall be part of the waiver request.
(c) Development of demonstration projects.If development of a demonstration project for innovative or specialized services requires that substance use disorder services be provided, a waiver may be requested for a period of time sufficient to complete an evaluation of the demonstration project and must document how waiver requirements have been met.The waiver may be renewed annually if the CA performs an evaluation of the project that demonstrates the project is effective while maintaining quality of service and the CA has conducted a good faith effort and has been unable to locate a willing and capable provider.
(3) When a waiver is granted for subdivisions (b) and (c) of this subrule, the coordinating agency shall be required to be licensed for the waiver period and shall comply with all conditions for receipt of a license. The coordinating agency may be required by the administrator to comply with all statistical, client, management, or financial reporting requirements required or programs providing similar services.
History:1979 ACS 7, Eff. Sept. 10, 1981; 2006 MR 13, Eff. July 5, 2006.

R 325.14214
Source: 1981 AACS.

PART 3. RECIPIENT RIGHTS

R 325.14301
Source: 1981 AACS.

R 325.14302
Source: 1981 AACS.

R 325.14303
Source: 1981 AACS.

R 325.14304
Source: 1981 AACS.

R 325.14305
Source: 1981 AACS.

R 325.14306
Source: 1981 AACS.

PART 4. METHADONE TREATMENT AND OTHER CHEMOTHERAPY

R 325.14401
Source: 1981 AACS.

R 325.14402
Source: 1981 AACS.

R 325.14403
Source: 1981 AACS.

R 325.14404
Source: 1981 AACS.

R 325.14405
Source: 1981 AACS.

R 325.14406
Source: 1981 AACS.

R 325.14407
Source: 1981 AACS.

R 325.14408
Source: 1981 AACS.

R 325.14409
Source: 1981 AACS.

R 325.14410
Source: 1981 AACS.

R 325.14411
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R 325.14412
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R 325.14413
Source: 1981 AACS.

R 325.14414
Source: 1981 AACS.

R 325.14415
Source: 1981 AACS.

R 325.14416
Source: 1981 AACS.

R 325.14417
Source: 1981 AACS.

R 325.14418
Source: 1981 AACS.

R 325.14419 Client records.
Rule 419. (1) A client record shall be maintained by a program for a period of 3 years after services are terminated.
(2) A client record shall contain, at a minimum, all of the following information:
(a) A signed consent form (use federal food and drug administration form FD 2635).
(b) The date of each visit for medication or counseling, or both.
(c) The amount of methadone dispensed for take-out or administered on-site.
(d) The results of each urinalysis.
(e) A detailed account of any adverse reactions to medication (use federal food and drug administration form 1639, "Drug Experience Report").
(f) Any significant physical or psychological disability and plans for referral or on-site treatment.
(g) If the client's treatment plan identifies a need for counseling services and includes the provision of these services, then signed and dated progress reports by the counselor must be included in the clinical record.
(h) The termination and readmission evaluation written or endorsed and dated by the program physician.
(i) Monthly medical progress notes by the dispensing nurse.
(j) Monthly renewal of the methadone order.
(k) Documentation of a physician-client encounter every 60 days.

(l) Documentation of methadone authority approval of any exceptions to the applicable rules and regulations.
(m) The initial, and any subsequent, treatment plan.
(n) The periodic treatment plan evaluation by the program physician or counselor at least once every 60 days.
(o) The annual treatment plan review by the program physician.
(3) Deaths which may be methadone related shall be reported to the federal food and drug administration on form FD 1639, "Drug Experience Report" within 2 weeks of the death. Births to clients that are premature or show signs of adverse reaction to methadone shall also be reported on form FD 1639.
History: 1979 ACS 7, Eff. Sept. 10, 1981; 2006 MR 13, Eff. July 5, 2006.

R 325.14420
Source: 1981 AACS.

R 325.14421
Source: 1981 AACS.

R 325.14422
Source: 1981 AACS.

R 325.14423
Source: 1981 AACS.

PART 5. PREVENTION

R 325.14501
Source: 1981 AACS.

R 325.14521 Rescinded.
History: 1979 ACS 7, Eff. Sept. 10, 1981; rescinded 2006 MR 13, Eff. July 5, 2006.

R 325.14522 Rescinded.
History: 1979 ACS 7, Eff. Sept. 10, 1981; rescinded 2006 MR 13, Eff. July 5, 2006.

R 325.14523 Rescinded.
History: 1979 ACS 7, Eff. Sept. 10, 1981; rescinded 2006 MR 13, Eff. July 5, 2006.

R 325.14524 Rescinded.
History: 1979 ACS 7, Eff. Sept. 10, 1981; rescinded 2006 MR 13, Eff. July 5, 2006.

R 325.14525 Rescinded.
History: 1979 ACS 7, Eff. Sept. 10, 1981; rescinded 2006 MR 13, Eff. July 5, 2006.

R 325.14526 Rescinded.
History: 1979 ACS 7, Eff. Sept. 10, 1981; rescinded 2006 MR 13, Eff. July 5, 2006.

R 325.14527 Rescinded.
History: 1979 ACS 7, Eff. Sept. 10, 1981; rescinded 2006 MR 13, Eff. July 5, 2006.

R 325.14528 Rescinded.
History: 1979 ACS 7, Eff. Sept. 10, 1981; rescinded 2006 MR 13, Eff. July 5, 2006.

R 325.14529 Rescinded.
History: 1979 ACS 7, Eff. Sept. 10, 1981; rescinded 2006 MR 13, Eff. July 5, 2006.

R 325.14530 Rescinded.
History: 1979 ACS 7, Eff. Sept. 10, 1981; rescinded 2006 MR 13, Eff. July 5, 2006.

PART 6. CASEFINDING

R 325.14601
Source: 1981 AACS.

R 325.14602
Source: 1981 AACS.

R 325.14603
Source: 1981 AACS.

R 325.14621 Rescinded.
History: 1979 ACS 7, Eff. Sept. 10, 1981; rescinded 2006 MR 13, Eff. July 5, 2006.

R 325.14622 Rescinded.
History: 1979 ACS 7, Eff. Sept. 10, 1981; rescinded 2006 MR 13, Eff. July 5, 2006.

R 325.14623 Rescinded.
History: 1979 ACS 7, Eff. Sept. 10, 1981; rescinded 2006 MR 13, Eff. July 5, 2006.

PART 7. OUTPATIENT PROGRAMS

R 325.14701
Source: 1981 AACS.

R 325.14702
Source: 1981 AACS.

R 325.14703
Source: 1981 AACS.

R 325.14704
Source: 1981 AACS.

R 325.14705
Source: 1981 AACS.

R 325.14706
Source: 1981 AACS.

R 325.14707
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R 325.14708
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R 325.14709
Source: 1981 AACS.

R 325.14710
Source: 1981 AACS.

R 325.14711
Source: 1981 AACS.

R 325.14712
Source: 1981 AACS.

PART 8. INPATIENT PROGRAMS

R 325.14801
Source: 1981 AACS.

R 325.14802
Source: 1981 AACS.

R 325.14803
Source: 1981 AACS.

R 325.14804
Source: 1981 AACS.

R 325.14805
Source: 1981 AACS.

R 325.14806
Source: 1981 AACS.

R 325.14807
Source: 1981 AACS.

PART 9. RESIDENTIAL PROGRAMS

R 325.14901
Source: 1981 AACS.

R 325.14902
Source: 1981 AACS.

R 325.14903
Source: 1981 AACS.

R 325.14904
Source: 1981 AACS.

R 325.14905
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R 325.14906
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R 325.14907
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R 325.14908
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R 325.14909
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R 325.14910
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R 325.14927
Source: 1981 AACS.

R 325.14928
Source: 1981 AACS.

DEPARTMENT OF ENVIRONMENTAL QUALITY

DIVISION OF OCCUPATIONAL HEALTH

CLASS IV DRY CLEANING ESTABLISHMENTS

PART 1. GENERAL PROVISIONS

R 325.17101
Source: 2004 AACS.

R 325.17102
Source: 2004 AACS.

R 325.17103
Source: 2004 AACS.

R 325.17104
Source: 2004 AACS.

R 325.17105
Source: 2004 AACS.

R 325.17106
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R 325.17107
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R 325.17108
Source: 2004 AACS.

R 325.17109

Source: 2004 AACS.

PART 2. DRAWINGS

R 325.17201
Source: 2004 AACS.

R 325.17202
Source: 2004 AACS.

R 325.17203
Source: 2004 AACS.

R 325.17203a
Source: 2004 AACS.

R 325.17204
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R 325.17205
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R 325.17209
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R 325.17210
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R 325.17211
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PART 3. LICENSURE

R 325.17301
Source: 2004 AACS.

R 325.17302
Source: 2004 AACS.

R 325.17303
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R 325.17304
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R 325.17305
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R 325.17307
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R 325.17308
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R 325.17309
Source: 2004 AACS.

PART 4. DRY CLEANING MACHINE REQUIREMENTS

R 325.17401
Source: 2004 AACS.

R 325.17402
Source: 2004 AACS.

R 325.17403
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R 325.17404
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R 325.17405
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R 325.17406
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R 325.17407
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R 325.17408
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R 325.17409
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PART 5. BUILDING REQUIREMENTS

R 325.17501
Source: 2004 AACS.

R 325.17502
Source: 2004 AACS.

R 325.17503
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R 325.17504
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R 325.17508
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R 325.17509
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R 325.17510
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PART 7. INSTALLATION, OPERATION, AND VENTILATION

R 325.17701
Source: 2004 AACS.

R 325.17702
Source: 2004 AACS.

R 325.17703
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R 325.17704
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R 325.17705
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R 325.17706
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R 325.17711
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R 325.17712
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R 325.17713
Source: 2004 AACS.

R 325.17714
Source: 2004 AACS.

PART 9. INSPECTIONS OF DRY CLEANING ESTABLISHMENTS

R 325.17901
Source: 2004 AACS.

R 325.17902
Source: 2004 AACS.

R 325.17903
Source: 2004 AACS.

R 325.17904
Source: 2004 AACS.

R 325.17905
Source: 2004 AACS.

R 325.17906
Source: 2004 AACS.

PART 10. CONTESTED CASES

R 325.18001
Source: 2004 AACS.

R 325.18002
Source: 2004 AACS.

R 325.18003
Source: 2004 AACS.

R 325.18004
Source: 2004 AACS.

R 325.18005
Source: 2004 AACS.

R 325.18006
Source: 2004 AACS.

PART 11. TYPICAL DESIGN PRINTS AND DIAGRAMS

R 325.18101
Source: 2004 AACS.

R 325.18102
Source: 2004 AACS.

R 325.18103
Source: 2004 AACS.

R 325.18104
Source: 2004 AACS.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

OCCUPATIONAL HEALTH STANDARDS COMMISSION

PROCESS SAFETY MANAGEMENT OF HIGHLY HAZARDOUS CHEMICALS

R 325.18301
Source: 1998-2000 AACS.

R 325.18302
Source: 1998-2000 AACS.

HEALTH FACILITIES SERVICES ADMINISTRATION

NURSING HOMES AND NURSING CARE FACILITIES

PART 1. GENERAL PROVISIONS

R 325.20101
Source: 1981 AACS.

R 325.20102
Source: 1981 AACS.

R 325.20103
Source: 1981 AACS.

R 325.20104
Source: 1983 AACS.

R 325.20106
Source: 1981 AACS.

R 325.20107
Source: 1981 AACS.

R 325.20108
Source: 1981 AACS.

R 325.20109
Source: 1981 AACS.

R 325.20110
Source: 1981 AACS.

R 325.20111
Source: 1981 AACS.

R 325.20112
Source: 1981 AACS.

R 325.20113
Source: 1983 AACS.

R 325.20114
Source: 1981 AACS.

R 325.20115
Source: 1981 AACS.

R 325.20116
Source: 1981 AACS.

R 325.20117
Source: 1983 AACS.

R 325.20118
Source: 1981 AACS.

PART 2. LICENSURE

R 325.20201
Source: 1981 AACS.

R 325.20202
Source: 1981 AACS.

R 325.20203
Source: 1981 AACS.

R 325.20204
Source: 1981 AACS.

R 325.20205
Source: 1981 AACS.

R 325.20206
Source: 1983 AACS.

R 325.20207
Source: 1981 AACS.

R 325.20208
Source: 1981 AACS.

R 325.20209
Source: 1981 AACS.

R 325.20210
Source: 1981 AACS.

R 325.20211
Source: 1981 AACS.

R 325.20212
Source: 1981 AACS.

R 325.20213
Source: 1981 AACS.

R 325.20214
Source: 1981 AACS.

R 325.20215
Source: 1981 AACS.

PART 3. ACCESS TO NURSING HOMES AND PATIENTS

R 325.20301
Source: 1981 AACS.

R 325.20302
Source: 1983 AACS.

R 325.20303
Source: 1983 AACS.

R 325.20304
Source: 1983 AACS.

PART 4. ADMINISTRATIVE MANAGEMENT OF HOMES

R 325.20401
Source: 1981 AACS.

R 325.20402
Source: 1981 AACS.

R 325.20403
Source: 1981 AACS.

R 325.20404
Source: 1983 AACS.

R 325.20405
Source: 1981 AACS.

R 325.20406
Source: 1983 AACS.

R 325.20407
Source: 1981 AACS.

PART 5. PATIENT CARE

R 325.20501
Source: 1981 AACS.

R 325.20502
Source: 1983 AACS.

R 325.20503
Source: 1981 AACS.

R 325.20504
Source: 1981 AACS.

R 325.20505
Source: 1981 AACS.

R 325.20506

Source: 1981 AACS.

R 325.20507
Source: 1981 AACS.

R 325.20508
Source: 1981 AACS.

R 325.20509
Source: 1981 AACS.

PART 6. PHYSICIAN SERVICES

R 325.20601
Source: 1981 AACS.

R 325.20602
Source: 1981 AACS.

R 325.20603
Source: 1983 AACS.

R 325.20604
Source: 1981 AACS.

R 325.20605
Source: 1983 AACS.

R 325.20606
Source: 1981 AACS.

PART 7. NURSING SERVICES

R 325.20701
Source: 1983 AACS.

R 325.20702
Source: 1983 AACS.

R 325.20703
Source: 1986 AACS.

R 325.20704
Source: 1986 AACS.

R 325.20705
Source: 1981 AACS.

R 325.20706
Source: 1981 AACS.

R 325.20707
Source: 1983 AACS.

R 325.20708
Source: 1981 AACS.

R 325.20709
Source: 1984 AACS.

R 325.20710
Source: 1981 AACS.

R 325.20711
Source: 1983 AACS.

R 325.20712
Source: 1983 AACS.

R 325.20713
Source: 1981 AACS.

R 325.20714
Source: 1983 AACS.

PART 8. DIETARY SERVICES

R 325.20801
Source: 1983 AACS.

R 325.20802
Source: 1981 AACS.

R 325.20803
Source: 1981 AACS.

R 325.20804
Source: 1983 AACS.

R 325.20805
Source: 1981 AACS.

R 325.20806
Source: 1983 AACS.

PART 9. PHARMACEUTICAL SERVICES

R 325.20901
Source: 1983 AACS.

R 325.20902
Source: 1981 AACS.

R 325.20903
Source: 1981 AACS.

R 325.20904
Source: 1981 AACS.

R 325.20905
Source: 1981 AACS.

R 325.20906
Source: 1981 AACS.

PART 10. OTHER SERVICES

R 325.21001

Source: 1981 AACS.

R 325.21002
Source: 1981 AACS.

R 325.21003
Source: 1986 AACS.

PART 11. RECORDS

R 325.21101
Source: 1983 AACS.

R 325.21102
Source: 1983 AACS.

R 325.21103
Source: 1981 AACS.

R 325.21104
Source: 1981 AACS.

R 325.21105
Source: 1983 AACS.

PART 12. MEDICAL AUDIT, UTILIZATION REVIEW, AND QUALITY CONTROL

R 325.21201
Source: 1981 AACS.

R 325.21203
Source: 1981 AACS.

R 325.21204
Source: 1981 AACS.

PART 13. BUILDINGS AND GROUNDS

R 325.21301
Source: 1981 AACS.

R 325.21302
Source: 1981 AACS.

R 325.21303
Source: 1983 AACS.

R 325.21304
Source: 1981 AACS.

R 325.21305
Source: 1983 AACS.

R 325.21306
Source: 1983 AACS.

R 325.21307
Source: 1983 AACS.

R 325.21308
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R 325.21309
Source: 1981 AACS.

R 325.21310
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R 325.21311
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R 325.21312
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R 325.21313
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R 325.21314
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R 325.21315
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R 325.21316
Source: 1983 AACS.

R 325.21317
Source: 1983 AACS.

R 325.21318
Source: 1981 AACS.

R 325.21319
Source: 1981 AACS.

R 325.21320
Source: 1981 AACS.

R 325.21321
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R 325.21322
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R 325.21323
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R 325.21324
Source: 1981 AACS.

R 325.21325
Source: 1981 AACS.

R 325.21326
Source: 1983 AACS.

R 325.21327
Source: 1983 AACS.

R 325.21328
Source: 1981 AACS.

PART 14. CHILD CARE HOMES AND CHILD CARE UNITS

R 325.21401
Source: 1981 AACS.

R 325.21402
Source: 1981 AACS.

R 325.21403
Source: 1981 AACS.

R 325.21404
Source: 1981 AACS.

R 325.21405
Source: 1981 AACS.

R 325.21406
Source: 1981 AACS.

R 325.21407
Source: 1981 AACS.

R 325.21408
Source: 1981 AACS.

R 325.21409
Source: 1981 AACS.

R 325.21410
Source: 1981 AACS.

R 325.21411
Source: 1981 AACS.

PART 15. CERTIFICATION

R 325.21501
Source: 1981 AACS.

R 325.21502
Source: 1981 AACS.

R 325.21503
Source: 1981 AACS.

R 325.21504
Source: 1981 AACS.

R 325.21505
Source: 1981 AACS.

R 325.21506
Source: 1981 AACS.

R 325.21507
Source: 1981 AACS.

R 325.21508
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R 325.21509
Source: 1981 AACS.

R 325.21510
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R 325.21511
Source: 1981 AACS.

R 325.21512
Source: 1981 AACS.

R 325.21513
Source: 1981 AACS.

R 325.21514
Source: 1981 AACS.

R 325.21515
Source: 1981 AACS.

PART 16. NURSING FACILITIES FOR CARE OF MENTALLY ILL PATIENTS

R 325.21601
Source: 1981 AACS.

R 325.21602
Source: 1981 AACS.

R 325.21603
Source: 1981 AACS.

R 325.21604
Source: 1981 AACS.

R 325.21605
Source: 1981 AACS.

PART 17. NURSING FACILITIES FOR CARE OF MENTALLY RETARDED PATIENTS

R 325.21701
Source: 1981 AACS.

R 325.21702
Source: 1981 AACS.

R 325.21703
Source: 1981 AACS.

R 325.21704
Source: 1981 AACS.

R 325.21705
Source: 1981 AACS.

PART 18. NURSING FACILITIES FOR CARE OF TUBERCULOSIS PATIENTS

R 325.21801
Source: 1981 AACS.

R 325.21802
Source: 1981 AACS.

R 325.21803
Source: 1981 AACS.

R 325.21804
Source: 1981 AACS.

R 325.21805
Source: 1981 AACS.

R 325.21806
Source: 1981 AACS.

R 325.21807
Source: 1981 AACS.

PART 19. HEARING PROCEDURE

R 325.21901
Source: 1981 AACS.

R 325.21902
Source: 1981 AACS.

R 325.21903
Source: 1981 AACS.

R 325.21904
Source: 1981 AACS.

R 325.21905
Source: 1981 AACS.

R 325.21906
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R 325.21907
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R 325.21908
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R 325.21909
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R 325.21910
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R 325.21911
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R 325.21912
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R 325.21915
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R 325.21916
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R 325.21917
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R 325.21918
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R 325.21919
Source: 1981 AACS.

R 325.21920
Source: 1981 AACS.

R 325.21921
Source: 1981 AACS.

R 325.21922
Source: 1981 AACS.

PART 20. EDUCATION AND TRAINING OF UNLICENSED NURSING PERSONNEL

R 325.22001
Source: 1983 AACS.

R 325.22002
Source: 1983 AACS.

R 325.22003
Source: 1983 AACS.

R 325.22003a
Source: 1984 AACS.

R 325.22004
Source: 1983 AACS.

DEPARTMENT OF COMMUNITY HEALTH

DIRECTOR'S OFFICE

EMERGENCY MEDICAL SERVICES - LIFE SUPPORT AGENCIES & MEDICAL CONTROL

PART 1. GENERAL PROVISIONS

R 325.22101
Source: 2004 AACS.

R 325.22102
Source: 2004 AACS.

R 325.22103
Source: 2004 AACS.

R 325.22104
Source: 2004 AACS.

PART 2. LIFE SUPPORT AGENCIES-GENERAL

R 325.22111
Source: 2004 AACS.

R 325.22112
Source: 2004 AACS.

R 325.22113
Source: 2004 AACS.

R 325.22114
Source: 2004 AACS.

R 325.22115
Source: 2004 AACS.

R 325.22116
Source: 2004 AACS.

R 325.22117
Source: 2004 AACS.

R 325.22118
Source: 2004 AACS.

R 325.22119
Source: 2004 AACS.

R 325.22120
Source: 2004 AACS.

R 325.22121
Source: 2004 AACS.

R 325.22122
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R 325.22123
Source: 2004 AACS.

R 325.22124

Source: 2004 AACS.

R 325.22125
Source: 2004 AACS.

R 325.22126
Source: 2004 AACS.

R 325.22127
Source: 2004 AACS.

PART 3. AMBULANCE OPERATIONS

R 325.22131
Source: 2004 AACS.

R325.22132
Source: 2004 AACS.

R 325.22133
Source: 2004 AACS.

R 325.22134
Source: 2004 AACS.

R 325.22135
Source: 2004 AACS.

R 325.22136
Source: 2004 AACS.

R 325.22137
Source: 2004 AACS.

R 325.22138
Source: 2004 AACS.

PART 4. NONTRANSPORT PREHOSPITAL LIFE SUPPORT OPERATIONS

R 325.22141
Source: 2004 AACS.

R 325.22142
Source: 2004 AACS.

R 325.22143
Source: 2004 AACS.

R 325.22144
Source: 2004 AACS.

R 325.22145
Source: 2004 AACS.

R 325.22146
Source: 2004 AACS.

PART 5. AIRCRAFT TRANSPORT OPERATIONS

R 325.22151
Source: 2004 AACS.

R325.22152
Source: 2004 AACS.

R 325.22153
Source: 2004 AACS.

R 325.22154
Source: 2004 AACS.

R 325.22155
Source: 2004 AACS.

R 325.22156
Source: 2004 AACS.

PART 6. MEDICAL FIRST RESPONSE SERVICES

R 325.22161
Source: 2004 AACS.

R 325.22162
Source: 2004 AACS.

R 325.22163
Source: 2004 AACS.

R 325.22164
Source: 2004 AACS.

R 325.22165
Source: 2004 AACS.

R 325.22166
Source: 2004 AACS.

PART 7. AMBULANCE OPERATION UPGRADE LICENSE

R 325.22171
Source: 2004 AACS.

R 325.22172
Source: 2004 AACS.

R 325.22173
Source: 2004 AACS.

R 325.22174
Source: 2004 AACS.

R 325.22175

Source: 2004 AACS.

R 325.22176
Source: 2004 AACS.

R 325.22177
Source: 2004 AACS.

PART 8. LIFE SUPPORT VEHICLES

R 325.22181
Source: 2004 AACS.

R 325.22182
Source: 2004 AACS.

R 325.22183
Source: 2004 AACS.

R 325.22184
Source: 2004 AACS.

R325.22185
Source: 2004 AACS.

R 325.22186
Source: 2004 AACS.

R 325.22187
Source: 2004 AACS.

R 325.22188
Source: 2004 AACS.

R 325.22189
Source: 2004 AACS.

R 325.22190
Source: 2004 AACS.

R 325.22191
Source: 2004 AACS.

PART 9. COMMUNICATIONS REQUIREMENTS

R 325.22192
Source: 2004 AACS.

R 325.22193
Source: 2004 AACS.

R 325.22194
Source: 2004 AACS.

R 325.22195
Source: 2004 AACS.

PART 10. MEDICAL CONTROL AUTHORITY

R 325.22201
Source: 2004 AACS.

R 325.22202
Source: 2004 AACS.

R 325.22203
Source: 2004 AACS.

R 325.22204
Source: 2004 AACS.

R 325.22205
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R 325.22206
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R 325.22207
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R 325.22208
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R 325.22209
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R 325.22210
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R 325.22211
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R 325.22212
Source: 2004 AACS.

R 325.22213
Source: 2004 AACS.

R 325.22214
Source: 2004 AACS.

R 325.22215
Source: 2004 AACS.

R 325.22216
Source: 2004 AACS.

R 325.22217
Source: 2004 AACS.

DEPARTMENT OF COMMUNITY HEALTH

DIRECTOR'S OFFICE

EMERGENCY MEDICAL SERVICES PERSONNEL LICENSING

R 325.22301
Source: 2004 AACS.

R 325.22302
Source: 2004 AACS.

PART 2. EMERGENCY MEDICAL SERVICES PERSONNEL LICENSING

R 325.22311
Source: 2004 AACS.

R 325.22312
Source: 2004 AACS.

R 325.22313
Source: 2004 AACS.

R 325.22314
Source: 2004 AACS.

R 325.22315
Source: 2004 AACS.

R 325.22316
Source: 2004 AACS.

PART 3. CONTINUING EDUCATION REQUIREMENTS

R 325.22321
Source: 2004 AACS.

R 325.22322
Source: 2004 AACS.

R 325.22323
Source: 2004 AACS.

R 325.22324
Source: 2004 AACS.

R 325.22325
Source: 2004 AACS.

R 325.22326
Source: 2004 AACS.

R 325.22327
Source: 2004 AACS.

PART 4. INSTRUCTOR-COORDINATORS

R 325.22331
Source: 2004 AACS.

R 325.22332
Source: 2004 AACS.

R 325.22333
Source: 2004 AACS.

R 325.22334
Source: 2004 AACS.

R 325.22335
Source: 2004 AACS.

R 325.22336
Source: 2004 AACS.

R 325.22337
Source: 2004 AACS.

R 325.22338
Source: 2004 AACS.

PART 5. EDUCATION PROGRAM REQUIREMENTS

R 325.22339
Source: 2004 AACS.

R 325.22340
Source: 2004 AACS.

R 325.22341
Source: 2004 AACS.

R 325.22342
Source: 2004 AACS.

R 325.22343
Source: 2004 AACS.

R 325.22344
Source: 2004 AACS.

R 325.22345
Source: 2004 AACS.

PART 6. HEARING PROCEDURES

R 325.22346
Source: 2004 AACS.

R 325.22347
Source: 2004 AACS.

R 325.22348
Source: 2004 AACS.

R 325.22349
Source: 2004 AACS.

R 325.22350
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R 325.22351
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R 325.22352
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R 325.22353
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R 325.22354
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R 325.22355
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R 325.22356
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R 325.22357
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R 325.22358
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R 325.22359
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R 325.22360
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R 325.22361
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R 325.22362
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R 325.22363
Source: 2004 AACS.

R 325.23101
Source: 2004 AACS.

R 325.23102
Source: 2004 AACS.

R 325.23103
Source: 2004 AACS.

R 325.23104
Source: 2004 AACS.

R 325.23105

Source: 2004 AACS.

R 325.23106
Source: 2004 AACS.

R 325.23107
Source: 2004 AACS.

PART 2. EMERGENCY MEDICAL SERVICES SYSTEM

R 325.23201
Source: 2004 AACS.

R 325.23202
Source: 2004 AACS.

R 325.23203
Source: 2004 AACS.

PART 3. AMBULANCE PERSONNEL, AMBULANCE ATTENDANTS

R 325.23301
Source: 2004 AACS.

R 325.23302
Source: 2004 AACS.

R 325.23303
Source: 2004 AACS.

R 325.23304
Source: 2004 AACS.

PART 4. ADVANCED EMERGENCY MEDICAL TECHNICIANS, EMERGENCY MEDICAL TECHNICIAN SPECIALISTS, EMERGENCY MEDICAL TECHNICIANS

R 325.23401
Source: 2004 AACS.

R 325.23402
Source: 2004 AACS.

R 325.23403
Source: 2004 AACS.

R 325.23404
Source: 2004 AACS.

R 325.23405
Source: 2004 AACS.

R 325.23406
Source: 2004 AACS.

R 325.23407
Source: 2004 AACS.

PART 5. INSTRUCTOR-COORDINATORS

R 325.23501
Source: 2004 AACS.

R 325.23502
Source: 2004 AACS.

R 325.23503
Source: 2004 AACS.

R 325.23504
Source: 2004 AACS.

R 325.23505
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R 325.23506
Source: 2004 AACS.

R 325.23507
Source: 2004 AACS.

PART 6. TRAINING PROGRAM REQUIREMENTS

R 325.23601
Source: 2004 AACS.

R 325.23602
Source: 2004 AACS.

R 325.23603
Source: 2004 AACS.

PART 7. MEDICAL CONTROL

R 325.23701
Source: 2004 AACS.

R 325.23702
Source: 2004 AACS.

R 325.23703
Source: 2004 AACS.

R 325.23704
Source: 2004 AACS.

R 325.23705
Source: 2004 AACS.

R 325.23706
Source: 2004 AACS.

R 325.23707
Source: 2004 AACS.

PART 8. ADVANCED AND LIMITED ADVANCED MOBILE EMERGENCY CARE SERVICES

R 325.23801
Source: 2004 AACS.

R 325.23802
Source: 2004 AACS.

R 325.23803
Source: 2004 AACS.

R 325.23804
Source: 2004 AACS.

R 325.23805
Source: 2004 AACS.

R 325.23806
Source: 2004 AACS.

R 325.23807
Source: 2004 AACS.

R 325.23808
Source: 2004 AACS.

PART 9. AMBULANCE OPERATIONS

R 325.23901
Source: 2004 AACS.

R 325.23902
Source: 2004 AACS.

R 325.23903
Source: 2004 AACS.

R 325.23904
Source: 2004 AACS.

R 325.23905
Source: 2004 AACS.

R 325.23906
Source: 2004 AACS.

PART 10. VEHICLE STANDARDS

R 325.24001
Source: 2004 AACS.

R 325.24002
Source: 2004 AACS.

R 325.24003
Source: 2004 AACS.

R 325.24005
Source: 2004 AACS.

R 325.24006
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R 325.24007
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R 325.24008
Source: 2004 AACS.

R 325.24009
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R 325.24010
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R 325.24011
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R 325.24012
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R 325.24013
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R 325.24014
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R 325.24015
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R 325.24016
Source: 2004 AACS.

R 325.24017
Source: 2004 AACS.

R 325.24018
Source: 2004 AACS.

R 325.24020
Source: 2004 AACS.

PART 11. HEARING PROCEDURES

R 325.24101
Source: 2004 AACS.

R 325.24102
Source: 2004 AACS.

R 325.24103
Source: 2004 AACS.

R 325.24104
Source: 2004 AACS.

R 325.24105
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R 325.24106
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R 325.24107
Source: 2004 AACS.

R 325.24108
Source: 2004 AACS.

R 325.24109
Source: 2004 AACS.

R 325.24110
Source: 2004 AACS.

R 325.24111
Source: 2004 AACS.

R 325.24112
Source: 2004 AACS.

R 325.24113
Source: 2004 AACS.

R 325.24114
Source: 2004 AACS.

R 325.24115
Source: 2004 AACS.

R 325.24116
Source: 2004 AACS.

R 325.24117
Source: 2004 AACS.

R 325.24118
Source: 2004 AACS.

DEPARTMENT OF AGRICULTURE

BUREAU OF ENVIRONMENTAL AND OCCUPATIONAL HEALTH

FOOD SERVICE SANITATION

PART 1. GENERAL PROVISIONS

R 325.25101
Source: 2001 AACS.

R 325.25102
Source: 2001 AACS.

R 325.25103
Source: 2001 AACS.

R 325.25104
Source: 2001 AACS.

R 325.25105
Source: 2001 AACS.

R 325.25106
Source: 2001 AACS.

PART 4. DEPARTMENT AND LOCAL HEALTH DEPARTMENT PROGRAM REQUIREMENTS, PROCEDURES, AND EVALUATIONS

R 325.25401
Source: 2001 AACS.

R 325.25402
Source: 2001 AACS.

R 325.25403
Source: 2001 AACS.

R 325.25404
Source: 2001 AACS.

R 325.25405
Source: 2001 AACS.

R 325.25502
Source: 2001 AACS.

R 325.25503
Source: 2001 AACS.

R 325.25504
Source: 2001 AACS.

R 325.25505
Source: 2001 AACS.

PART 6. TEMPORARY AND MOBILE FOOD SERVICE ESTABLISHMENTS

R 325.25601
Source: 2001 AACS.

R 325.25602
Source: 2001 AACS.

R 325.25603
Source: 2001 AACS.

R 325.25604
Source: 2001 AACS.

R 325.25605
Source: 2001 AACS.

R 325.25606
Source: 2001 AACS.

R 325.25607
Source: 2001 AACS.

PART 7. PLAN SUBMITTAL AND REVIEW

R 325.25701
Source: 2001 AACS.

R 325.25702
Source: 2001 AACS.

R 325.25703
Source: 2001 AACS.

R 325.25704
Source: 2001 AACS.

R 325.25705
Source: 2001 AACS.

R 325.25706
Source: 2001 AACS.

R 325.25707
Source: 2001 AACS.

R 325.25708
Source: 2001 AACS.

PART 8. LICENSING AND ENFORCEMENT

R 325.25801
Source: 2001 AACS.

R 325.25802
Source: 2001 AACS.

R 325.25803
Source: 2001 AACS.

R 325.25804
Source: 2001 AACS.

R 325.25805
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R 325.25806

Source: 2001 AACS.

R 325.25807
Source: 2001 AACS.

PART 9. SURVEILLANCE AND INSPECTIONS

R 325.25901
Source: 2001 AACS.

R 325.25902
Source: 2001 AACS.

R 325.25903
Source: 2001 AACS.

R 325.25904
Source: 2001 AACS.

R 325.25905
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R 325.25906
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R 325.25907
Source: 2001 AACS.

R 325.25908
Source: 2001 AACS.

R 325.25909
Source: 2001 AACS.

R 325.25910
Source: 2001 AACS.

PART 10. VENTILATION

R 325.26001
Source: 2001 AACS.

R 325.26002
Source: 2001 AACS.

R 325.26003
Source: 2001 AACS.

R 325.26004
Source: 2001 AACS.

R 325.26005
Source: 2001 AACS.

R 325.26006
Source: 2001 AACS.

R 325.26007
Source: 2001 AACS.

R 325.26008
Source: 2001 AACS.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

OCCUPATIONAL HEALTH STANDARDS

OCCUPATIONAL HEALTH STANDARDS--CARCINOGENS

R 325.35001
Source: 2002 AACS.

R 325.35002
Source: 2002 AACS.

R 325.35003
Source: 2002 AACS.

R 325.35004
Source: 2002 AACS.

R 325.35005
Source: 2002 AACS.

R 325.35006
Source: 2002 AACS.

R 325.35007
Source: 2002 AACS.

R 325.35008
Source: 2002 AACS.

R 325.35009
Source: 2002 AACS.

R 325.35010
Source: 2002 AACS.

R 325.35011
Source: 2002 AACS.

MEDICAL SERVICES AND FIRST AID—GENERAL INDUSTRY

R 325.47201
Source: 2001 AACS.

ILLUMINATION

R 325.47801
Source: 2001 AACS.

EXTINGUISHING SYSTEMS

R 325.48001 Rescission of O.H. rule 3304.
Rule 1. O.H. rule 3304, which was incorporated by reference pursuant to section 14 of 1974 PA 154, MCL 408.1014,

is rescinded.
History: 2005 MR 14, Eff. July 22, 2005.

METHYLENEDIANILINE (MDA)

R 325.50051
Source: 1993 AACS.

R 325.50052
Source: 1998-2000 AACS.

R 325.50053
Source: 1993 AACS.

R 325.50054
Source: 1998-2000 AACS.

R 325.50055
Source: 1993 AACS.

R 325.50056
Source: 1993 AACS.

R 325.50057
Source: 1993 AACS.

R 325.50058
Source: 1993 AACS.

R 325.50059
Source: 1993 AACS.

R 325.50060
Source: 1998-2000 AACS.

R 325.50061
Source: 1993 AACS.

R 325.50062
Source: 1993 AACS.

R 325.50063
Source: 1993 AACS.

R 325.50064
Source: 1993 AACS.

R 325.50065
Source: 1993 AACS.

R 325.50066
Source: 1993 AACS.

R 325.50067
Source: 1993 AACS.

R 325.50068
Source: 1993 AACS.

R 325.50069
Source: 1993 AACS.

R 325.50070
Source: 1993 AACS.

R 325.50071
Source: 1993 AACS.

R 325.50072
Source: 1993 AACS.

R 325.50073
Source: 1993 AACS.

R 325.50074
Source: 1998-2000 AACS.

R 325.50075
Source: 1998-2000 AACS.

R 325.50076
Source: 1998-2000 AACS.

1,3-BUTADIENE

R 325.50091
Source: 1997 AACS.

R 325.50092
Source: 1998-2000 AACS.

COKE OVEN EMISSIONS

R 325.50101
Source: 1998-2000 AACS.

R 325.50102
Source: 1998-2000 AACS.

R 325.50106
Source: 1987 AACS.

R 325.50107
Source: 1987 AACS.

R 325.50108
Source: 1987 AACS.

R 325.50109
Source: 1987 AACS.

R 325.50117
Source: 1998-2000 AACS.

R 325.50118

Source: 1998-2000 AACS.

R 325.50124
Source: 1998-2000 AACS.

R 325.50125
Source: 1998-2000 AACS.

R 325.50136
Source: 1998-2000 AACS.

R 325.50151
Source: 1998-2000 AACS.

OCCUPATIONAL HEALTH STANDARDS

PART 315. CHROMIUM (VI) IN GENERAL INDUSTRY

R 325.50141 Scope and application.
Rule 1. (1) These rules apply to all occupational exposures to Chromium (VI) except as provided in subrule (2) of this rule.
(2) These rules do not apply to construction work as defined by 1974 PA 154, MCL 408.1001 to MCL 408.1094. Exposure to Chromium (VI) in construction work is covered by occupational health standard Part 604 Chromium (VI) in Construction, R 325.51995 to R 325.51997.
History: 2006 MR 14, Eff. Aug. 7, 2006.

R 325.50142 Adoption by reference of federal standard.
Rule 2. (1) The provisions of federal occupational safety and health administration regulations on the Occupational Exposure to Hexavalent Chromium promulgated by the United States department of labor and codified at 29 C.F.R. §1910.1026, Chromium (VI), February 28, 2006 and appearing in the Federal Register Volume 71, Number 39 on pp. 10374 to 10377, are adopted by reference in these rules as of the effective date of these rules. As used in these rules:
(a) "Assistant Secretary," as used in 29 C.F.R. §1910.1026(b), means director of the department of labor and economic growth.
(b) "§1910.134," referenced in 29 C.F.R. §1910.1026(g)(2), means occupational health standard Part 451 Respiratory Protection, R 325.60051 and R 325.60052.
(c) "§1910.1200," referenced in 29 C.F.R. §1910.1026(h)(2)(iv); §1910.1026(j)(3)(ii); §1910.1026(l)(1); and §1910.1026(m), means occupational health standard Part 430 Hazard Communication, R 325.77001 to R 325.77003.
(d) "§1910.141," referenced in 29 C.F.R. §1910.1026(i)(1), means occupational health standard Part 474 Sanitation, Rules 4201 and 4202.
(2) The adopted federal regulations shall have the same force and effect as a rule promulgated under 1974 PA 154, MCL 408.1001 to MCL 408.1094.
History: 2006 MR 14, Eff. Aug. 7, 2006.

R 325.50143 Availability of documents.
Rule 3. (1) The federal regulation adopted by reference in these rules is available without cost as of the time of adoption of these rules from the United States Department of Labor, OSHA, 315 West Allegan, Room 315, Lansing, Michigan 48933, or via the internet at website: www.osha.gov, or from the Michigan Department of Labor and Economic Growth, MIOSHA Standards Section, P.O. Box 30643, Lansing, Michigan 48909.
(2) The following Michigan occupational safety and health standards are referenced in these rules. Up to 5 copies of these standards may be obtained at no charge from the Michigan Department of Labor and Economic Growth, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143 or via the internet at website: www.michigan.gov/mioshastandards. For quantities greater than 5, the cost, as of the time of adoption of these rules, is 4 cents per page.
(a) Occupational Health Standard Part 430 Hazard Communication, R 325.77001 to R 325.77003.
(b) Occupational Health Standard Part 451 Respiratory Protection, R 325.60051 and R 325.60052.
(c) Occupational Health Standard Part 474 Sanitation, Rules 4201 and 4202.
History: 2006 MR 14, Eff. Aug. 7, 2006.

PART 501. AGRICULTURAL OPERATIONS

R 325.50171
Source: 2002 AACS.

OCCUPATIONAL HEALTH STANDARDS

PART 2. TUNNELS, SHAFTS, CAISSONS, AND COFFERDAMS

R 325.50201
Source: 1997 AACS.

R 325.50202
Source: 1997 AACS.

R 325.50203
Source: 1997 AACS.

R 325.50204
Source: 1997 AACS.

R 325.50205
Source: 1997 AACS.

R 325.50206
Source: 1997 AACS.

R 325.50207
Source: 1997 AACS.

R 325.50208
Source: 1997 AACS.

R 325.50209
Source: 1997 AACS.

R 325.50210
Source: 1997 AACS.

R 325.50211
Source: 1997 AACS.

R 325.50212
Source: 1997 AACS.

R 325.50213
Source: 1997 AACS.

R 325.50214
Source: 1997 AACS.

R 325.50215
Source: 1997 AACS.

R 325.50216
Source: 1997 AACS.

R 325.50217

Source: 1997 AACS.

R 325.50218
Source: 1997 AACS.

R 325.50219
Source: 1997 AACS.

R 325.50220
Source: 1997 AACS.

R 325.50221
Source: 1997 AACS.

R 325.50222
Source: 1997 AACS.

R 325.50223
Source: 1997 AACS.

R 325.50224
Source: 1997 AACS.

R 325.50225
Source: 1997 AACS.

R 325.50226
Source: 1997 AACS.

R 325.50227
Source: 1997 AACS.

R 325.50228
Source: 1997 AACS.

R 325.50229
Source: 1997 AACS.

R 325.50230
Source: 1997 AACS.

R 325.50231
Source: 1997 AACS.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

DIRECTOR'S OFFICE

OCCUPATIONAL HEALTH STANDARDS--ABRASIVE BLASTING

R 325.50251
Source: 2001 AACS.

R 325.50252
Source: 2001 AACS.

R 325.50253

Source: 2001 AACS.

R 325.50254
Source: 2001 AACS.

R 325.50255
Source: 2001 AACS.

R 325.50256
Source: 2001 AACS.

R 325.50257
Source: 2001 AACS.

R 325.50258
Source: 2001 AACS.

ILLUMINATION

R 325.50902
Source: 2001 AACS.

R 325.51004
Source: 2001 AACS.

AIR CONTAMINANTS

R 325.51101
Source: 2001 AACS.

R 325.51103
Source: 2001 AACS.

R 325.51104
Source: 2001 AACS.

R 325.51105
Source: 2001 AACS.

R 325.51106
Source: 2001 AACS.

R 325.51107
Source: 1990 AACS.

R 325.51108
Source: 2001 AACS.

ETHYLENE OXIDE

R 325.51151
Source: 1993 AACS.

R 325.51152
Source: 1998-2000 AACS.

R 325.51153
Source: 1993 AACS.

R 325.51154
Source: 1993 AACS.

R 325.51155
Source: 1993 AACS.

R 325.51156
Source: 1993 AACS.

R 325.51157
Source: 1988 AACS.

R 325.51158
Source: 1988 AACS.

R 325.51159
Source: 1993 AACS.

R 325.51160
Source: 1988 AACS.

R 325.51161
Source: 1993 AACS.

R 325.51162
Source: 1998-2000 AACS.

R 325.51163
Source: 1998-2000 AACS.

R 325.51164
Source: 1988 AACS.

R 325.51165
Source: 1988 AACS.

R 325.51166
Source: 1988 AACS.

R 325.51167
Source: 1988 AACS.

R 325.51168
Source: 1988 AACS.

R 325.51169
Source: 1988 AACS.

R 325.51170
Source: 1993 AACS.

R 325.51171
Source: 1988 AACS.

R 325.51172
Source: 1993 AACS.

R 325.51173
Source: 1993 AACS.

R 325.51174
Source: 1993 AACS.

R 325.51175
Source: 1988 AACS.

R 325.51176
Source: 1988 AACS.

R 325.51177
Source: 1998-2000 AACS.

ASBESTOS STANDARDS FOR CONSTRUCTION

R 325.51301
Source: 1997 AACS.

R 325.51302
Source: 1998-2000 AACS.

ASBESTOS STANDARDS FOR GENERAL INDUSTRY

R 325.51311
Source: 1997 AACS.

R 325.51312
Source: 1998-2000 AACS.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

DIRECTOR'S OFFICE

OCCUPATIONAL HEALTH STANDARDS--VINYL CHLORIDE

R 325.51401
Source: 1998-2000 AACS.

R 325.51402
Source: 1998-2000 AACS.

R 325.51403
Source: 1998-2000 AACS.

R 325.51404
Source: 1998-2000 AACS.

R 325.51405
Source: 1998-2000 AACS.

R 325.51406
Source: 1998-2000 AACS.

R 325.51407

Source: 1998-2000 AACS.

R 325.51408
Source: 1998-2000 AACS.

R 325.51409
Source: 1998-2000 AACS.

R 325.51410
Source: 1998-2000 AACS.

R 325.51411
Source: 1998-2000 AACS.

R 325.51412
Source: 1998-2000 AACS.

R 325.51413
Source: 1998-2000 AACS.

R 325.51414
Source: 1998-2000 AACS.

FORMALDEHYDE

R 325.51451
Source: 1990 AACS.

R 325.51452
Source: 1998-2000 AACS.

R 325.51453
Source: 1993 AACS.

R 325.51454
Source: 1993 AACS.

R 325.51455
Source: 1993 AACS.

R 325.51456
Source: 1990 AACS.

R 325.51457
Source: 1990 AACS.

R 325.51458
Source: 1990 AACS.

R 325.51459
Source: 1990 AACS.

R 325.51460
Source: 1998-2000 AACS.

R 325.51461
Source: 1998-2000 AACS.

R 325.51462
Source: 1998-2000 AACS.

R 325.51463
Source: 1990 AACS.

R 325.51464
Source: 1990 AACS.

R 325.51465
Source: 1990 AACS.

R 325.51466
Source: 1990 AACS.

R 325.51467
Source: 1993 AACS.

R 325.51468
Source: 1990 AACS.

R 325.51469
Source: 1990 AACS.

R 325.51470
Source: 1998-2000 AACS.

R 325.51471
Source: 1993 AACS.

R 325.51472
Source: 1993 AACS.

R 325.51473
Source: 1993 AACS.

R 325.51474
Source: 1990 AACS.

R 325.51475
Source: 1993 AACS.

R 325.51476
Source: 1998-2000 AACS.

R 325.51477
Source: 1998-2000 AACS.

ACRYLONITRILE (AN)

R 325.51501
Source: 1980 AACS.

R 325.51502
Source: 1998-2000 AACS.

R 325.51503
Source: 1980 AACS.

R 325.51504
Source: 1980 AACS.

R 325.51505
Source: 1980 AACS.

R 325.51506
Source: 1980 AACS.

R 325.51507
Source: 1980 AACS.

R 325.51508
Source: 1980 AACS.

R 325.51509
Source: 1998-2000 AACS.

R 325.51510
Source: 1980 AACS.

R 325.51511
Source: 1993 AACS.

R 325.51512
Source: 1980 AACS.

R 325.51513
Source: 1980 AACS.

R 325.51514
Source: 1980 AACS.

R 325.51515
Source: 1980 AACS.

R 325.51516
Source: 1980 AACS.

R 325.51517
Source: 1998-2000 AACS.

R 325.51518
Source: 1980 AACS.

R 325.51519
Source: 1998-2000 AACS.

R 325.51520
Source: 1980 AACS.

R 325.51521
Source: 1980 AACS.

R 325.51522
Source: 1980 AACS.

R 325.51523
Source: 1980 AACS.

R 325.51524
Source: 1993 AACS.

R 325.51525
Source: 1993 AACS.

R 325.51526
Source: 1980 AACS.

R 325.51527
Source: 1998-2000 AACS.

INORGANIC ARSENIC (AS)

R 325.51601
Source: 1993 AACS.

R 325.51602
Source: 1998-2000 AACS.

R 325.51603
Source: 1980 AACS.

R 325.51604
Source: 1980 AACS.

R 325.51605
Source: 1980 AACS.

R 325.51606
Source: 1993 AACS.

R 325.51607
Source: 1980 AACS.

R 325.51608
Source: 1980 AACS.

R 325.51609
Source: 1980 AACS.

R 325.51610
Source: 1998-2000 AACS.

R 325.51611
Source: 1998-2000 AACS.

R 325.51612
Source: 1998-2000 AACS.

R 325.51613
Source: 1998-2000 AACS.

R 325.51614
Source: 1998-2000 AACS.

R 325.51615
Source: 1980 AACS.

R 325.51616
Source: 1980 AACS.

R 325.51617
Source: 1980 AACS.

R 325.51618
Source: 1998-2000 AACS.

R 325.51619
Source: 1998-2000 AACS.

R 325.51620
Source: 1980 AACS.

R 325.51621
Source: 1980 AACS.

R 325.51622
Source: 1993 AACS.

R 325.51623
Source: 1980 AACS.

R 325.51624
Source: 1980 AACS.

R 325.51625
Source: 1993 AACS.

R 325.51626
Source: 1980 AACS.

R 325.51627
Source: 1980 AACS.

R 325.51628
Source: 1998-2000 AACS.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

OCCUPATIONAL HEALTH STANDARDS COMMISSION

METHYLENE CHLORIDE

R 325.51651
Source: 1998-2000 AACS.

R 325.51652
Source: 1998-2000 AACS.

CADMIUM

R 325.51851
Source: 1998-2000 AACS.

R 325.51852

Source: 1998-2000 AACS.

R 325.51853
Source: 1993 AACS.

R 325.51854
Source: 1993 AACS.

R 325.51855
Source: 1998-2000 AACS.

R 325.51856
Source: 1998-2000 AACS.

R 325.51857
Source: 1993 AACS.

R 325.51858
Source: 1998-2000 AACS.

R 325.51859
Source: 1993 AACS.

R 325.51860
Source: 1993 AACS.

R 325.51861
Source: 1993 AACS.

R 325.51862
Source: 1998-2000 AACS.

R 325.51863
Source: 1998-2000 AACS.

R 325.51864
Source: 1993 AACS.

R 325.51865
Source: 1998-2000 AACS.

R 325.51866
Source: 1993 AACS.

R 325.51867
Source: 1993 AACS.

R 325.51868
Source: 1998-2000 AACS.

R 325.51869
Source: 1993 AACS.

R 325.51870
Source: 1998-2000 AACS.

R 325.51871
Source: 1993 AACS.

R 325.51872
Source: 1998-2000 AACS.

R 325.51873
Source: 1993 AACS.

R 325.51874
Source: 1993 AACS.

R 325.51875
Source: 1998-2000 AACS.

R 325.51876
Source: 1993 AACS.

R 325.51877
Source: 1993 AACS.

R 325.51878
Source: 1993 AACS.

R 325.51879
Source: 1998-2000 AACS.

R 325.51880
Source: 1998-2000 AACS.

R 325.51881
Source: 1993 AACS.

R 325.51882
Source: 1993 AACS.

R 325.51883
Source: 1998-2000 AACS.

R 325.51884
Source: 1993 AACS.

R 325.51885
Source: 1998-2000 AACS.

R 325.51886
Source: 1998-2000 AACS.

LEAD

R 325.51901
Source: 1998-2000 AACS.

R 325.51902
Source: 1998-2000 AACS.

R 325.51903
Source: 1998-2000 AACS.

R 325.51904
Source: 1998-2000 AACS.

R 325.51905
Source: 1998-2000 AACS.

R 325.51906
Source: 1998-2000 AACS.

R 325.51907
Source: 1981 AACS.

R 325.51908
Source: 1998-2000 AACS.

R 325.51909
Source: 1981 AACS.

R 325.51910
Source: 1981 AACS.

R 325.51911
Source: 1981 AACS.

R 325.51912
Source: 1981 AACS.

R 325.51913
Source: 1981 AACS.

R 325.51914
Source: 1998-2000 AACS.

R 325.51915
Source: 1984 AACS.

R 325.51916
Source: 1998-2000 AACS.

R 325.51916a
Source: 1984 AACS.

R 325.51916b
Source: 1984 AACS.

R 325.51917
Source: 1998-2000 AACS.

R 325.51918
Source: 1998-2000 AACS.

R 325.51919
Source: 1998-2000 AACS.

R 325.51920
Source: 1998-2000 AACS.

R 325.51921
Source: 1998-2000 AACS.

R 325.51922
Source: 1981 AACS.

R 325.51923
Source: 1981 AACS.

R 325.51924
Source: 1988 AACS.

R 325.51925
Source: 1981 AACS.

R 325.51926
Source: 1981 AACS.

R 325.51927
Source: 1981 AACS.

R 325.51928
Source: 1981 AACS.

R 325.51929
Source: 1998-2000 AACS.

R 325.51930
Source: 1998-2000 AACS.

R 325.51931
Source: 1988 AACS.

R 325.51931a
Source: 1998-2000 AACS.

R 325.51932
Source: 1998-2000 AACS.

R 325.51933
Source: 1988 AACS.

R 325.51934
Source: 1998-2000 AACS.

R 325.51935
Source: 1981 AACS.

R 325.51936
Source: 1981 AACS.

R 325.51937
Source: 1981 AACS.

R 325.51938
Source: 1981 AACS.

R 325.51938a
Source: 1988 AACS.

R 325.51939
Source: 1981 AACS.

R 325.51940
Source: 1981 AACS.

R 325.51941
Source: 1984 AACS.

R 325.51942
Source: 1981 AACS.

R 325.51943
Source: 1998-2000 AACS.

R 325.51944
Source: 1981 AACS.

R 325.51945
Source: 1981 AACS.

R 325.51946
Source: 1981 AACS.

R 325.51947
Source: 1981 AACS.

R 325.51948
Source: 1981 AACS.

R 325.51949
Source: 1998-2000 AACS.

R 325.51950
Source: 1981 AACS.

R 325.51950a
Source: 1984 AACS.

R 325.51950b
Source: 1984 AACS.

R 325.51951
Source: 1981 AACS.

R 325.51952
Source: 1981 AACS.

R 325.51953
Source: 1981 AACS.

R 325.51954
Source: 1981 AACS.

R 325.51955
Source: 1981 AACS.

R 325.51956
Source: 1981 AACS.

R 325.51957
Source: 1981 AACS.

R 325.51958
Source: 1998-2000 AACS.

LEAD EXPOSURE IN CONSTRUCTION

R 325.51991
Source: 1993 AACS.

R 325.51992
Source: 1998-2000 AACS.

PART 604. CHROMIUM (VI) IN CONSTRUCTION

R 325.51995 Scope and application.
Rule 1. (1) These rules apply to all occupational exposures to Chromium (VI), except as provided in subrule (2) of this rule.
(2) These rules do not apply to general industry work as defined by 1974 PA 154 as amended, MCL 408.1001 to MCL 408.1094. Exposure to Chromium (VI) in general industry work is covered by occupational health standard Part 315 Chromium (VI) in General Industry, R 325.50141 to R 325.50143.
History: 2006 MR 14, Eff. Aug. 7, 2006.

R 325.51996 Adoption by reference of federal standard.
Rule 2. (1) The provisions of federal occupational safety and health administration regulations on the Occupational Exposure to Hexavalent Chromium promulgated by the United States department of labor and codified at 29 C.F.R. §1926.1126, Chromium (VI), February 28, 2006 and appearing in the Federal Register Volume 71, Number 39 on pp. 10382 to10385, are adopted by reference in these rules as of the effective date of these rules. As used in these rules:
(a) "Assistant Secretary," as used in 29 C.F.R. §1926.1126(b), means director of the department of labor and economic growth.
(b) "§1910.134," referenced in 29 C.F.R. §1910.1126(f)(2), means occupational health standard Part 451 Respiratory Protection, R 325.60051 and R 325.60052.
(c) "§1910.1200," referenced in 29 C.F.R. §1910.1026(g)(2)(iv) and §1910.1026(j)(1), mean occupational health standard Part 430 Hazard Communication, R 325.77001 to R 325.77003.
(d) "§1910.1020," referenced in 29 C.F.R. §1910.1126(k)(1)(iii); §1910.1126(k)(2)(ii)(E); §1910.1126(k)(3)(iii); and §1910.1126(k)(4)(iii), mean occupational health standard Part 470 Employee Medical Records and Trade Secrets, R 325.3451 to R 325.3476.
(2) The adopted federal regulations shall have the same force and effect as a rule promulgated under 1974 PA 154, MCL 408.1001 to MCL 408.1094.
History: 2006 MR 14, Eff. Aug. 7, 2006.

R 325.51997 Availability of documents.
Rule 3. (1) The federal regulation adopted by reference in these rules is available without cost as of the time of adoption of these rules from the United States Department of Labor, OSHA, 315 West Allegan, Room 315, Lansing, Michigan 48933, or via the internet at website: www.osha.gov, or from the Michigan Department of Labor and Economic Growth, MIOSHA Standards Section, P.O. Box 30643, Lansing, Michigan 48909.
(2) The following Michigan occupational safety and health standards are referenced in these rules. Up to 5 copies of these standards may be obtained at no charge from the Michigan Department of Labor and Economic Growth, MIOSHA Standards Section, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan, 48909-8143 or via the internet at website: www.michigan.gov/mioshastandards. For quantities greater than 5, the cost, as of the time of adoption of these rules, is 4 cents per page.
(a) Occupational Health Standard Part 430 Hazard Communication, R 325.77001 to R 325.77003.
(b) Occupational Health Standard Part 451 Respiratory Protection, R 325.60051 and R 325.60052.
(c) Occupational Health Standard Part 470 Employee Medical Records and Trade Secrets, R 325.3451 to R 325.3476.
History: 2006 MR 14, Eff. Aug. 7, 2006.

PART 520. VENTILATION CONTROL

R 325.52001
Source: 2005 AACS.

R 325.52002
Source: 2005 AACS.

R 325.52003
Source: 2005 AACS.

R 325.52004
Source: 2005 AACS.

R 325.52005
Source: 2005 AACS.

R 325.52006
Source: 2005 AACS.

R 325.52007
Source: 2005 AACS.

R 325.52008
Source: 2005 AACS.

R 325.52009
Source: 2005 AACS.

R 325.52010
Source: 2005 AACS.

R 325.52011
Source: 2005 AACS.

R 325.52012
Source: 2005 AACS.

HAZARDOUS WASTE OPERATIONS AND EMERGENCY RESPONSE

R 325.52101
Source: 1991 AACS.

R 325.52102
Source: 1998-2000 AACS.

R 325.52103
Source: 1998-2000 AACS.

R 325.52104
Source: 1991 AACS.

R 325.52105
Source: 1991 AACS.

R 325.52106
Source: 1991 AACS.

R 325.52107
Source: 1991 AACS.

R 325.52108
Source: 1991 AACS.

R 325.52109
Source: 1991 AACS.

R 325.52110
Source: 1991 AACS.

R 325.52111
Source: 1991 AACS.

R 325.52112
Source: 1991 AACS.

R 325.52113
Source: 1998-2000 AACS.

R 325.52114
Source: 1998-2000 AACS.

R 325.52115
Source: 1991 AACS.

R 325.52116
Source: 1991 AACS.

R 325.52117
Source: 1991 AACS.

R 325.52118
Source: 1998-2000 AACS.

R 325.52119
Source: 1991 AACS.

R 325.52120
Source: 1991 AACS.

R 325.52121
Source: 1991 AACS.

R 325.52122
Source: 1991 AACS.

R 325.52123
Source: 1991 AACS.

R 325.52124
Source: 1991 AACS.

R 325.52125
Source: 1998-2000 AACS.

R 325.52126
Source: 1991 AACS.

R 325.52127
Source: 1991 AACS.

R 325.52128
Source: 1991 AACS.

R 325.52129
Source: 1998-2000 AACS.

R 325.52130
Source: 1998-2000 AACS.

R 325.52131
Source: 1998-2000 AACS.

R 325.52132
Source: 1991 AACS.

R 325.52133
Source: 1991 AACS.

R 325.52134
Source: 1991 AACS.

R 325.52135
Source: 1998-2000 AACS.

R 325.52136
Source: 1991 AACS.

R 325.52137
Source: 1998-2000 AACS.

OCCUPATIONAL HEALTH STANDARDS

R 325.52201
Source: 2001 AACS.

R 325.52401
Source: 2001 AACS.

PART 525. GRINDING, POLISHING, AND BUFFING OPERATIONS

R 325.52501
Source: 2003 AACS.

R 325.52502
Source: 2003 AACS.

R 325.52503
Source: 2003 AACS.

R 325.52504
Source: 2003 AACS.

R 325.52505
Source: 2003 AACS.

R 325.52506
Source: 2003 AACS.

R 325.52701
Source: 2001 AACS.

PERSONAL PROTECTIVE EQUIPMENT

R 325.60001
Source: 1998-2000 AACS.

R 325.60002
Source: 1995 AACS.

R 325.60003
Source: 1995 AACS.

R 325.60004
Source: 1995 AACS.

R 325.60005
Source: 1998-2000 AACS.

R 325.60006
Source: 1995 AACS.

R 325.60007
Source: 1998-2000 AACS.

R 325.60008
Source: 1998-2000 AACS.

R 325.60009
Source: 1998-2000 AACS.

R 325.60010
Source: 1995 AACS.

R 325.60011
Source: 1995 AACS.

R 325.60012
Source: 1995 AACS.

R 325.60013
Source: 1998-2000 AACS.

USE OF RESPIRATORS IN DANGEROUS ATMOSPHERES

R 325.60022
Source: 1998-2000 AACS.

RESPIRATORY PROTECTION

R 325.60051
Source: 1998-2000 AACS.

R 325.60052
Source: 2005 AACS.

OCCUPATIONAL NOISE EXPOSURE

R 325.60101
Source: 1986 AACS.

R 325.60102
Source: 1986 AACS.

R 325.60103
Source: 1986 AACS.

R 325.60104
Source: 1986 AACS.

R 325.60105
Source: 1986 AACS.

R 325.60106
Source: 1986 AACS.

R 325.60107
Source: 1986 AACS.

R 325.60108
Source: 1986 AACS.

R 325.60109
Source: 1986 AACS.

R 325.60110
Source: 1986 AACS.

R 325.60111
Source: 1986 AACS.

R 325.60112
Source: 1986 AACS.

R 325.60113
Source: 1986 AACS.

R 325.60114
Source: 1986 AACS.

R 325.60115
Source: 1993 AACS.

R 325.60116
Source: 1986 AACS.

R 325.60117
Source: 1986 AACS.

R 325.60118
Source: 1986 AACS.

R 325.60119
Source: 1993 AACS.

R 325.60120
Source: 1993 AACS.

R 325.60121
Source: 1993 AACS.

R 325.60122
Source: 1993 AACS.

R 325.60123
Source: 1986 AACS.

R 325.60124
Source: 1986 AACS.

R 325.60125
Source: 1993 AACS.

R 325.60126
Source: 1986 AACS.

R 325.60127
Source: 1993 AACS.

R 325.60128
Source: 1993 AACS.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

DIRECTOR'S OFFICE

OCCUPATIONAL HEALTH STANDARDS--NOISE EXPOSURE FOR CONSTRUCTION

R 325.60131
Source: 1998-2000 AACS.

AIR CONTAMINANTS FOR CONSTRUCTION

R 325.60151
Source: 2002 AACS.

R 325.60152
Source: 2002 AACS.

R 325.60153
Source: 2002 AACS.

R 325.60154
Source: 2002 AACS.

R 325.60155
Source: 2002 AACS.

R 325.60156
Source: 2002 AACS.

R 325.60157
Source: 2002 AACS.

R 325.60158
Source: 2002 AACS.

R 325.60159
Source: 2002 AACS.

R 325.60160
Source: 2002 AACS.

R 325.60161
Source: 2002 AACS.

OCCUPATIONAL HEALTH STANDARDS COMMISSION

PART 382. NONIONIZING RADIATION

R 325.60701
Source: 2002 AACS.

R 325.60702
Source: 2002 AACS.

R 325.60703
Source: 2002 AACS.

R 325.60704
Source: 2002 AACS.

AGRICULTURAL FIELD SANITATION

R 325.61751
Source: 1997 AACS.

R 325.61752
Source: 1997 AACS.

R 325.61753
Source: 1997 AACS.

R 325.61754
Source: 1997 AACS.

R 325.61755
Source: 1997 AACS.

R 325.61756
Source: 1997 AACS.

R 325.61757
Source: 1997 AACS.

OH STANDARD RULE 6610 - MEDICAL SERVICES AND FIRST AID

R 325.66201
Source: 2002 AACS.

UNDERGROUND CONSTRUCTION, CAISSONS, COFFERDAMS, AND COMPRESSED AIR

R 325.62991
Source: 2004 AACS.

R 325.62992
Source: 2004 AACS.

R 325.62993
Source: 1998-2000 AACS.

R 325.62994
Source: 2004 AACS.

R 325.62995
Source: 2004 AACS.

R 325.62996
Source: 2004 AACS.

PERMIT-REQUIRED CONFINED SPACES

R 325.63001
Source: 1998-2000 AACS.

R 325.63002
Source: 1998-2000 AACS.

R 325.63049
Source: 1998-2000 AACS.

DEPARTMENT OF LABOR AND ECONOMIC GROWTH

DIRECTOR'S OFFICE

OCCUPATIONAL HEALTH STANDARDS

R 325.66401
Source: 2005 AACS.

PART 681. RADIATION IN CONSTRUCTION: IONIZING AND NONIONIZING

R 325.68101
Source: 2005 AACS.

R 325. 68102
Source: 2005 AACS.

BLOODBORNE INFECTIOUS DISEASES

R 325.70001
Source: 2001 AACS.

R 325.70002
Source: 2001 AACS.

R 325.70003
Source: 1993 AACS.

R 325.70004
Source: 2001 AACS.

R 325.70005
Source: 1996 AACS.

R 325.70006
Source: 1993 AACS.

R 325.70007
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R 325.70008
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R 325.70009
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R 325.70010
Source: 1993 AACS.

R 325.70011
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R 325.70012
Source: 1996 AACS.

R 325.70013
Source: 1996 AACS.

R 325.70014
Source: 1993 AACS.

R 325.70015
Source: 2001 AACS.

R 325.70016
Source: 1996 AACS.

R 325.70017
Source: 1996 AACS.

R 325.70018
Source: 1996 AACS.

HAZARDOUS WORK IN LABORATORIES

PART 431. HAZARDOUS WORK IN LABORATORIES

R 325.70101
Source: 2003 AACS.

R 325.70102
Source: 2003 AACS.

R 325.70103
Source: 2003 AACS.

R 325.70104
Source: 2003 AACS.

R 325.70105
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R 325.70106
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R 325.70107
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R 325.70108
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R 325.70109
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R 325.70110
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R 325.70111
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R 325.70112
Source: 2003 AACS.

R 325.70113
Source: 2003 AACS.

R 325.70114
Source: 2003 AACS.

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

DIRECTOR'S OFFICE

OCCUPATIONAL HEALTH STANDARDS

R 325.70251
Source: 2001 AACS.

HAZARD COMMUNICATION

R 325.77001
Source: 1995 AACS.

R 325.77002
Source: 1995 AACS.

R 325.77003
Source: 1995 AACS.

BENZENE

R 325.77101
Source: 2002 AACS.

R 325.77102
Source: 2001 AACS.

R 325.77103
Source: 1989 AACS.

R 325.77104
Source: 1989 AACS.

R 325.77105
Source: 2001 AACS.

R 325.77106
Source: 1989 AACS.

R 325.77107
Source: 2001 AACS.

R 325.77108
Source: 2001 AACS.

R 325.77109
Source: 2001 AACS.

R 325.77110
Source: 2001 AACS.

R 325.77111
Source: 2001 AACS.

R 325.77113
Source: 2001 AACS.

R 325.77114
Source: 2001 AACS.

R 325.77115
Source: 2001 AACS.

DEPARTMENT OF COMMUNITY HEALTH

HEALTH LEGISLATION AND POLICY DEVELOPMENT

LEAD HAZARD CONTROL

PART 1. GENERAL PROVISIONS

R 325.99101
Source: 2005 AACS.

R 325.99102
Source: 2005 AACS.

R 325.99103
Source: 2005 AACS.

R 325.99104
Source: 2005 AACS.

PART 2. TRAINING PROGRAMS

R 325.99201
Source: 2005 AACS.

R 325.99202
Source: 2005 AACS.

R 325.99203
Source: 2005 AACS.

R 325.99204
Source: 2005 AACS.

R 325.99205
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R 325.99206
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R 325.99207
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R 325.99208
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R 325.99209
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R 325.99210
Source: 2005 AACS.

R 325.99211
Source: 2005 AACS.

R 325.99212
Source: 2005 AACS.

R 325.99213
Source: 2005 AACS.

PART 3. CERTIFIED INDIVIDUALS AND FIRMS

R 325.99301
Source: 2005 AACS.

R 325.99302
Source: 2005 AACS.

R 325.99303
Source: 2005 AACS.

R 325.99304
Source: 2005 AACS.

PART 4. WORK PRACTICE STANDARDS

R 325.99401
Source: 2005 AACS.

R 325.99402
Source: 2005 AACS.

R 325.99403
Source: 2005 AACS.

R 325.99404
Source: 2005 AACS.

R 325.99405
Source: 2005 AACS.

R 325.99406
Source: 2005 AACS.

R 325.99407
Source: 2005 AACS.

Source: 2005 AACS.

R 325.99408
Source: 2005 AACS.